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ABSTRACT

A study of underemployment, written as part of the development of a management information project (MISOE) for the Division of Occupational Education of the Department of Education in Massachusetts, the work represents the beginning of an effort to bring systematic, empirically based policy analysis to bear on problems of occupational education. The essay concerns the dynamics of social stratification and the labor market in the Commonwealth, addressing two issues: (1) What are the determinants and consequences of occupational educational stratification in Massachusetts? (2) To what extent can extreme occupational inequalities be reduced by various purposeful social policies? Following a brief introduction and a discussion of methodology, an analysis of the empirical foundation of the study of educational and occupational stratification occurs, in discussions of theory and model structure. The model generates a 40-year time history; during the simulation, the period 1960-2000 is traversed in one-year intervals, given initial conditions. The model is self-regulating. The curves in graphs provided are computer plots showing the behavior of selected system variables as generated through time by the simulation model; sequentially numbered equations required to run the program are included. Twenty-five pages of variable definitions are appended. (Author/AJ)

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OCCUPATIONAL LIFE IN MASSACHUSETTS

A System Dynamics Study of Poverty and Underemployment

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1. Introduction

This is a study of underemployment, written as part of a developing management information project for the Division of Occupational Education of the Department of Education in Massachusetts. The work represents the beginning of an effort to bring systematic empirically-based policy analysis to bear on problems of occupational education in the Commonwealth.

Poverty, underemployment, and undesirable work are conditions of major social interest and importance. In 1966, over 18% of those Americans who wished to work could not find employment, were involuntarily only part-time employed, or were paid less than $1.68/hour -- the hourly equivalent of the $3,500 1966 poverty line. Fully 33% of those who wished to work earned less than $2.65/hour -- the equivalent of the Bureau of Labor Statistics $5,500 Lower Level Urban Family Budget.[1]

In 1968, the mean earnings for full-time workers was $7,320. The mean for the top fifth of earners was $15,010, however, while that for the bottom fifth was $2,780. Thus, while workers in the top fifth earned 205% of the mean, those in the bottom fifth earned only 38%.[2]

Policies designed to reduce subemployment have been widely debated in both academic and political forums. Manpower training, educational reform, job creation, and urban renewal have all been proposed as possible solutions.

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1. Bennett Harrison, "Employment, Unemployment and Structure of the Urban Market", Wharton Quarterly, Vol. VI, No. 3, Spring, 1972, p 29. Included in Harrison's article is the formula used to obtain the figure in the text.

2. Christopher Jencks, et al, Inequality: A Reassessment of the Effect of Family and Schooling in America, New York: Basic Books, 1972, p 213.

This essay concerns the dynamics of social stratification and the labor market in the Commonwealth of Massachusetts. The paper attempts to address two issues:

1) What are the determinants and consequences of occupational and educational stratification in Massachusetts?

2) To what extent can extreme occupational inequalities be reduced by various purposeful social policies?

The study has been pursued in the belief that extremes of inequality in income and occupational well-being should be reduced. In America, many adults face menial work, job instability, and low wages; yet, in America, an individual's occupation is a major basis for self-respect and political power. For this reason, it is essential to understand the causes and consequences of occupational inequalities and the possible effects of public policies designed to reduce inequality.[1]

The analysis which follows is a system study. System methodology requires the self-conscious adoption of a theoretical framework, the explicit formulation of a formal model, the empirical corroboration of model and theory, and the recursive design of policy based on model experimentation.

Points of view or opinions expressed in this paper do not necessarily represent the official position or policy of the Department of Education.

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[1] John Rawls, in A Theory of Justice, Cambridge, Massachusetts: Harvard University Press, 1971, p 62, argues that social values such as income, wealth, and self-respect, "are to be distributed equally unless an unequal distribution of any, or all, of these values is to everyone's advantage." The particular application of this principle is difficult. Nevertheless, this author is convinced that present income inequalities among adults wishing to work are unjustifiable.

II. Methodology

Rigorous social research must rest on explicit methodological foundations. Standards for the kinds of research questions posed, guidelines for the interpretation of empirical evidence, and criteria for the acceptability of theoretical constructions, must be well understood and logically coherent. The choice of theoretical framework cannot be made by recourse to empirical evidence alone; the choice depends to a considerable degree on the interests and purpose of the scientific and social communities involved in the research.

The study of educational and occupational stratification which follows is a system dynamics analysis. System dynamics theory argues that social behavior is derivative of a structure of interacting decisions and actions. According to the theory, a scholar comes to understand social behavior by elucidating the components of system structure. The chief theoretical problem in a system dynamics analysis is the determination of a self-regulating feedback loop structure through which the social behavior under study can be understood.

> The most important concept in establishing the structure of a system is the idea that all actions take place within "feedback loops." The feedback loop is the closed path that connects an action to its effect on the surrounding conditions, and these resulting conditions in turn come back as "information" to influence further action. We often erroneously think of cause and effect as flowing in only one direction. We speak of action A causing result B. But such a perception is incomplete. Result B represents a new condition of the system that changes the future influences that affect action at A. [1]

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[1] Jay W. Forrester, World Dynamics, Cambridge, Massachusetts: Wright-Allen Press, 1971, p 17.

The members of a society under study may not be aware of the "structure" which the scholar posits to understand behavior. In Jean Piaget's terms, a structure is a mathematical model of the source of observed social actions.

> The peculiarity of authentic (analytic) structuralism is that it seeks to explain such empirical systems by postulating "deep" structures from which the former are in some manner derivable. Since structures in this sense of the word are ultimately logico-mathematical models of the observed social relations, they do not themselves belong to the realm of "fact".[1]

System dynamics posits the analysis of structure as an essential methodological principle; in addition, as in any social research, a conceptual framework is required in order to describe the social phenomena of interest and permit the formulation of research questions. Competing frameworks for the study of educational and occupational stratification are discussed in section III, below. An analysis of the theories presented in that section indicates that none is completely satisfactory. The "dual labor market theory," however, possesses certain important advantages for this study, and, consequently, it forms the basis of the work which follows.

Several issues arise in the construction of an adequate conceptual framework. First, a level of aggregation must be established, defining the degree of detail necessary to support a structural model of the empirical system. Second, a system boundary must be defined, clarifying the realm of behavior under study and the elements of its structure. Third, a time horizon must be established, defining the historical period during which the system is to be studied and during which, consequently, the structure

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[1] Jean Piaget, Structuralism, New York: Basic Books, 1970, p 98. Piaget provides a sophisticated treatment of structure.

posited must remain unchanged. These considerations are discussed at the outset of section IV.

A dynamic structural model, once formulated, can be written as a computer program. The behavioral consequences of the structural model can be observed by using the program to simulate the model on a computer. A simulation represents the "time history" of a world in which all action occurs according to the structure of the model.

Often, considerable experimentation with model simulation is required in order to understand the behavior characteristics of a model. A complex structure may exhibit "steersman like" directive or goal-seeking behavior (negative feedback). A structure may give rise to divergence (positive feedback), and pathologies such as information delays and distortion. "Policies" designed to bring about desirable system behavior can be tested by altering model structure; in many cases, experimental "policies" result in "worse-before-better" solutions.[1] Section V below presents the results of a number of simulation experiments.

The empirical corroboration of a system study is a complex and ill-understood problem. The confrontation of theory and evidence must occur at several levels of the analysis. The concepts chosen to describe the system under study should be subjected to careful logical and empirical scrutiny: confidence in a theoretical framework may be strengthened if the same framework has provided insight in a number of independent studies; if, instead an original set of concepts is invented for each new system study, there can be little confidence in the concepts.

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[1] Jay W. Forrester, Industrial Dynamics, MIT Press, Cambridge, Massachusetts 1961, p 347f. Also of interest is Hayward Alker, "Directive Behavior: A Desirable Orientation for Mathematical Scoial Science, Review Francais de Sociology, Numero Special 1970, Analyse De Systemes en Sciences Sociales (I), p 99-122.

The most commonly discussed method of corroboration is comparison of the simulated time-series "history" generated by a model with historical data obtained from the social system under study. Unfortunately, this approach is neither as conclusive nor as straightforward as it appears on first reading. A model is purposefully abstract; certain features known to be active in the empirical world are omitted from a model. Consequently, it is not reasonable to expect that model behavior will duplicate empirical system behavior exactly. Further, measurement of many important variables may be difficult, and, for some historical variables, measurement may be impossible. Finally, there is no simple "goodness of fit" criterion to apply to empirical and model-generated data.

Corroboration requires a complex weighing of several factors, including confidence in the conceptual framework at the base of the study, the precision of model parameter estimates, and the accuracy of model-generated historical time-series. Each of these factors must be judged against standards which depend upon the purposes for which the study has been undertaken.

Analysis of the empirical foundation of this study of educational and occupational stratification occurs in the discussion of theory, section III, and model structure, section IV. The conclusion, section VI, includes a consideration of the usefulness of the Massachusetts Management Information System for Occupational Education database in corroborating the work.

III. The Theory

Poverty and underemployment have only recently become central topics for study. Until the 1960's almost everyone ignored the poor. The simple aggregate unemployment rate was considered a good measure of labor force health. Those scholars who thought at all about poverty believed the problem was primarily one of low wages. Most people assumed that an overall rising standard of living would permit everyone who held a job eventually to "rise out" of poverty.[1]

In the sixties, politicians and scholars began to consider the possibility that "poverty" is a condition describing not only those people with less-than-subsistence wages, but also those whose wages are such that they are unable to participate adequately in the community. Various studies demonstrate that the general public's view of a minimum adequate income has risen in step with the mean income. In fact, since the forties, public opinion surveys have consistently indicated that people feel that about 55% of the mean income is what is required to get by -- even though the mean real income has doubled since 1940.[2]

There is evidence that this "unexpected" feature of poverty is not simply a matter of rising expectations. The real cost of maintaining an adequate living does not remain constant during economic growth.

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1 For a short summary of the pre-'sixties view of poverty, see David M. Gordon, Theories of Poverty and Underemployment: Orthodox, Radical, and Dual Labor Market Perspectives, Lexington, Massachusetts: Lexington Books, 1972, p 3-11.

2 Lee Rainwater, "Poverty, Living Standards, and Well-Being," Harvard-MIT Joint Center for Urban Studies, Working Paper Number 10.

> The goods and services that made it possible to live on $15 a week during the Depression were no longer available to a family with the same "real" income (i.e. $40 a week) in 1964. Eating habits had changed, and many cheap foods had disappeared from the stores. Most people had enough money to buy an automobile, so public transportation had atrophied, and families without automobiles were much worse off than during the Depression. The labor market had also changed, and a person without a telephone could not get or keep many jobs. A home without a telephone was more cut off socially than when few people had telephones and more people "dropped by." Housing arrangements had changed, too. During the Depression, many people could not afford indoor plumbing and "got by" with a privy. By the 1960's, privies were illegal in most places. Those who could not afford an indoor toilet ended up in buildings which had broken toilets. For this they paid more than their parents had paid for privies.[1]

Poverty is a condition which must be defined relative to the general income. The hope that a rising standard of living will in itself reduce poverty is unfounded.[2]

Poverty and underemployment apparently involve many features of the labor market and community, not simply a shortage of jobs. Job instability menial work, low skills, poor worker motivation, and inadequate job access all contribute to underemployment. It is to these problems that any empirically adequate theory of poverty must be addressed.

A theory of poverty in a state or political-geographic region must embody not only a theory of the labor market, but also a sociological theory of intergenerational mobility, and a sociological and economic theory of population migration and industrial location. In each of these disciplines there are considerable controversies among proponents of competing theories. The sections below schematically develop several major bodies of theory.

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[1] Jencks, p 5.

[2] In fact, the hope that the standard of living will continue to rise may also be unfounded. See, for example, Jay Forrester, World Dynamics.

The Labor Market

Any serious student of poverty and underemployment is faced with a large number of conflicting and incomplete theories, none of which has confronted substantial empirical tests. David Gordon presents an extremely useful analysis of orthodox, radical, and dual labor market theories in his Theories of Poverty and Unemployment, and he concludes that present articulation of theory and evidence is insufficient to allow arbitration among the theories.

Classical economic theory states that employees are paid according to supply and demand, and that at equilibrium an employee is paid the value of his marginal product. Increasing the number of highly educated individuals would, according to the theory, reduce the income of the most highly educated (by increasing the supply) and increase the income of the least educated (by reducing the supply).

Human capital theory, a variant of orthodox economics, argues that the amount of general education an employee possesses (if it results in improved productivity) should be viewed as a "stock" of human capital.[1] Firms requiring high skill employees locate where labor with considerable general education (human capital) is plentiful, and they pay a high wage, which can be considered a "return" to the employee's investment in human capital. A firm requiring skills specific to its own production process is likely to provide some or all of the necessary training (or its cost) itself, thus investing in the human capital of its employees. Such a firm consequently pays wages lower than the wages of firms requiring broad

[1] Gary S. Becker, Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education, New York: Columbia University Press, 1964.

general education, but higher than those of firms requiring non-skilled labor.

According to the theory, an individual's human capital increases due to training received on the job -- thus his wages often rise with job tenure. Poverty, in the human capital framework, is a condition affecting individuals possessing insufficient human capital. The moral of the theory is clear: to eradicate poverty, increase the human capital stock of the poor.

Lester Thurow argues that wages are attached to job slots -- not people.[1] In this theory, employers prefer more educated to less educated individuals because the highly educated are more trainable on the job, although they may not necessarily be more productive when hired. Employers choose employees from a "queue" in which potential workers are ranked by education and social characteristics. If this theory is correct, training programs for the poor merely shift people about in the "queue", without reducing poverty. The moral of the theory is: to reduce poverty, increase the total number of jobs.

The poverty-programs of the 1960's were generally based on assumptions similar to those of either the human capital or "queue" schools of orthodox economics. Many young economists who worked closely with the poverty programs, however, have indicated that these theories provide an insufficient basis for successful policy intervention.[2]

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[1] Lester C. Thurow, "Education and Economic Equality," The Public Interest, No. 28, Summer, 1972, p 66-81.

[2] See, for example, Peter B. Doeringer, et al, "Low Income Labor Markets and Urban Manpower Programs: A Critical Assessment", Research and Development Findings, No. 12, US Department of Labor, Manpower Administration, 1972 See also Michael J. Piore, "On-thejob Training of Disadvantaged Workers," in Arnold R. Weber, et al, Public-Private Manpower Policies, Industrial Relations Research Association, 1969, p 101-132.

Radical economists have developed a body of research in the past decade which applies Marxist analysis to contemporary problems of poverty.[1] A short summary of this work is nearly impossible (the reader is referred to David Gordon's treatment). The theory essentially argues that the capitalist class has attempted to maintain its interests by making concenssions regarding high wages and improved working conditions only where the failure to do so would have resulted in large scale conflict. With the rise of unions, it has become essential for the capitalists to separate highly paid, somewhat powerful workers, from the remaining poorly paid and powerless workers -- in order to slow or reverse the expansion of worker solidarity and consciousness. Accordingly, two classes of wage-labor emerge: the first composed primarily of white, well-educated men, who hold jobs requiring stability and high productivity; the second composed of poorer white men, blacks, and women, who work menial jobs requiring little productivity or stability. The hierarchical and balkanized social relations of production which emerge are less the result of technological necessity than of capitalist class interest.

The dual labor market theory, which has developed directly from attempts to evaluate the effectiveness of manpower training and anti-poverty programs, is, in many respects, a middle-ground between orthodox and radical economics. Like radical economic theory, the dual labor market framework distinguishes two categories of work, one characterized by high productivity and high wages, the other by low productivity and low wages.[2]

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[1] A particularly interesting article is Samuel Bowles and Herbert Gintis, "I.Q. in the US Class Structure," Social Policy, November/December 1972, January/February 1973

[2] For summaries of the dual labor market theory, see Gordon, Harrison, Doeringer, or Piore. Barry Bluestone, in "The Tripartite Economy: Labor Markets and the Working Poor," Poverty and Human Resources, Vol. 5, No. 4, 1970, distinguishes 3 markets: the core (primary), peripheral, and irregular economies.

Harrison summarizes the high-productivity, high-wage character of the primary sector:

> In the primary labor market, the attributes of jobs and the behavioral traits of workers interact (e.g. by mutual reinforcement) to produce a structure characterized by high productivity, non-poverty wages, and relatively stable employment.
>
> The high productivity of primary labor is a function not only of the knowledge and skills (i.e. the "human capital") of workers, but also (and perhaps more fundamentally) of the capital equipment with which they generally work. The market power of the typical primary firm, and the relatively high degree of profitability which is the usual corollary of such power, enable the employer to invest in modern capital equipment (frequently embodying "leading edge" technologies), to maintain that equipment, and to replace it when necessary. The same factors make it possible for such firms to invest in the "human capital" of their employees, so that the equipment will be used efficiently.[1]

The secondary labor force contrasts sharply with the primary sector:

> Secondary workers tend to display relatively low average and marginal productivity. While this is partly explained by human capital deficiencies, an at least equally important factor is the absence of economic power in this part of the economy. With little or no oligopolistic power, and with small absolute and relative profits, secondary firms tend to use more antiquated capital, which of course tends to diminish productivity. Finally, the jobs themselves often do not require skills of any great consequence, involving instead the kind of routine unskilled tasks which attract (and at the same time reinforce the life styles of) casual laborers.[2]

In the primary labor market, high wages encourage employee stability and investment in training. Stability and training permit the efficient utilization of new technologies; and new technologies in turn result in high productivity and high wages. In the secondary labor market, low wages encourage instability. Consequently, there is little investment in new technology, and this lack results in low wages.

These features of the two markets create considerable barriers which prevent workers from moving from the secondary to the primary economy.

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[1] Harrison, p 6.

[2] Harrison, p 7.

Workers in the secondary market receive little investment in on-the-job training and have little incentive to learn stable job norms. Further, employers have come to value certain worker attitudes and demographic traits above others. Evidence indicates, for example, that federal manpower training programs have rarely been successful in placing workers with a history of secondary employment in primary jobs.

In the urban ghetto, the secondary labor market competes with "quasi-legal" activities such as "hustling" and illegal activity such as street crime. Both crime and secondary employment share qualities of instability, risk, and small opportunity for "advancement". In addition, the income derived from welfare compares favorable with wages in the secondary labor market; thus a member of the secondary labor force has little to lose by moving from work to welfare and back again.

A number of historical forces are, according to the theory, responsible for the emergence of the dual labor market structure. These include:[1]

1) The increasing importance of skills acquired through on-the-job training, which has tended to raise the incentive for employers to retain stable workers and separate them from the unstable;

2) The rise of trade unions, which have sharpened the distinction between stable and unstable work;

3) The influence of the federal minimum wage and social security programs, which have encouraged firms to employ the minimum number of permanent workers possible;

4) The reduction, as the process of dual-market formation has advanced, in the availability of intermediate jobs through which disadvantaged workers, particularly from rural areas, can learn stable job norms;

5) The decreasing cost of unemployment, due to the rise in public assistance programs.

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[1] Gordon, p 47-48.

Intergenerational Mobility

Intergenerational mobility and social stratification are closely related. Stratification theory seeks to understand the distribution of social values, such as income, wealth, authority, and esteem. Research concentrates on status groups -- communities of individuals who share similar values and styles of life. In America, the occupational structure is the basis of the stratification system.

Peter Blau and Otis Dudley Durcan's The American Occupational Structure is a seminal empirical analysis of social stratification in America.[1] Their data, obtained as part of the March, 1962, Current Population Survey (Occupational and Educational Changes in a Generation), have provided the basis for considerable study of intergenerational mobility.[2]

The essential question which mobility research addresses can be phrased, "to what extent is an individual's social status determined by the status of his parents, and how does parent status exert this influence." In an attempt to answer this and related questions,

[1]Peter M. Blau and Otis Dudley Duncan, The American Occupational Structure, New York: John Wiley and Sons, Inc., 1967.

[2]See, for example, Otis Duncan, David Featherman, and Beverly Duncan, Socioeconomic Status and Achievement, ..., Jencks, Inequality, and Samuel Bowles, "Schooling and Inequality from Generation to Generation," Journal of Political Economy, May-June, 1972, p. s235.

Blau and Duncan have established a ranking of occupations on the basis of the mean educational attainment and income of the members of each occupation. These status scores correlate quite highly with prestige rankings of occupations obtained from public opinion polls. Occupational prestige rankings in opinion polls have remained essentially unchanged since 1925, the earliest date of a significant poll.[1]

Status scores have been used to obtain quantitative estimates of the "heritability" of occupational status. The evidence available suggests the following picture of intergenerational mobility.[2]

1) The greatest single systematic determinant of an individual's educational attainment is the status of his parents.

2) Parent status, IQ, and educational attainment together, however, explain less than half of the variation in occupational success or income.

3) Much of the influence of parent status on occupational success appears to be exerted through its effect on the educational attainment of children.

Precise estimates of the influence of parent status on educational attainment, income, and occupational status cannot be obtained from existing evidence; for example, scholars disagree rather substantially on the independent effect of amount of schooling on income, once parent status is taken into account.[3]

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[1]Robert W. Hodge, et al, "Occupational Prestige in the United States: 1925-1963," in Reinhard Bendix and Seymour Martin Lipset, Class, Status and Power: Social Stratification in Comparative Perspective, New York: The Free Press, 1966, p. 322.

[2]For empirical estimates of these relationships, see Jencks, Appendix B.

[3]Samuel Bowles, in "Schooling and Inequality," asserts that, "Most of the impact of years of schooling on earnings appears to be a direct transmission of economic status from one generation to the next." Using the same OCG data (Occupational Changes in a Generation), Jencks concludes that schooling exerts a significant independent effect on income. Part of this difference is a result of differing model specification and treatment of measurement error, and part is a matter of interpretation of the statistical evidence.

Certain conclusions, however are clear. First, parent status explains a significant part of the variation in individual educational attainment. For groups of children, mean parent status explains almost the entire variation. Second, existing differences among schools explain almost none of the variation in attainment or adult success. Finally, cognitive ability, as measured by IQ tests, has only a small effect on educational attainment and almost no effect on occupational status or income. Variation in IQ genotype explains between 2 and 9 per cent of the variation in educational attainment, according to Jencks' results. The transmission of status appears to be largely a matter of noncognitive learning -- although there is little empirical evidence to indicate exactly what it is that is learned. Similarly, the effects of schooling on adult success appear to be primarily noncognitive.[1]

[1]The "IQ controversy" concerns in part the problem of determining the degree to which the ability to score highly on IQ tests is hereditary and the degree to which it is due to environmental influences. In addition, controversy surrounds attempts to discern the effects of IQ on adult success.

Jencks finds that about 45 per cent of the variation in IQ test scores is due to IQ genotype, 35 per cent is due to environment, and 20 per cent is due to the covariation of genotype and environment. Arthur Jensen, in "How Much Can We Boost IQ and Scholastic Achievement," Harvard Education Review, Vol. 39, No. 1, finds that 80 per cent of the variation in IQ scores is due to genotype and 20 per cent is due to the environment (Jensen assigns the covariance term to genotype).

The correlation between IQ test scores and educational attainment, occupational status, or income, is not high, and part of the observed correlation is due to the covariation of IQ and socioeconomic status. Consequently, both Jencks' and Jensen's results on the heritability of IQ indicate that the effect of IQ genotype on adult status is minimal. The precise extent of this effect cannot be obtained from existing data.

Population Migration and Industrial Location

> If firms in an industry impart the same amounts of specific training but the amount differs by industry, the industry mix determines the amount of specific training in the labor force. The general education of the labor force will also affect its productivity. Since workers with large amounts of general education tend to be mobile and locate where highly skilled jobs are being offered, industry mix also plays a role in determining the distribution of general education among areas. However, firms as well as workers are mobile, and one determinant of plant location is the skill mix of the area's labor force. To take account of this influence would require a simultaneous equation model. We ignore it in what follows.
>
> Joseph P. Newhouse[1]

The theories of most regional economists fall into one (or both of two classes.[2] Theories in one class assert that there is an essential and internal developmental sequence which any geographic region must exhibit. A region begins as a relatively unpopulated agricultural area; it grows until sufficient income is generated to construct a transportation network with surrounding regions; the population begins to invest in industry; the region starts to export goods; and finally it exports services. According to this theory, local availability of resources and organizational or entrepreneurial talent determine the extent and type of development in a region, and external demand plays only a secondary role.

Theories of the second type stress the importance of the external economic climate in stimulating the growth of regions. According to these theories, national demand for the particular resources of a region will determine regional growth or decline.

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[1]Joseph P. Newhouse, "A Simple Hypothesis of Income Distribution," Journal of Human Resources, Winter, 1971, Vol. 6, p. 57.

[2]The two types are summarized in Douglass C. North, "Location Theory and Regional Economic Growth," in Regional Economics, David L. McKee, editor, pp. 29-48.

Harvey Perloff et al (Regions, Resources, and Economic Growth) assert that changes in regional demand are the driving forces of regional economies; Victor Fuchs (Changes in the Location of Manufacturing in the United States Since 1929) emphasizes the pull of inexpensive regional resources; Borts and Stein (Economic Growth in a Free Market) discuss changes in factor supply, particularly labor. Lee Olvey, in his doctoral dissertation, Regional Growth and Inter-regional Migration -- Their Pattern of Inter-Action, summarizes a number of different views and concludes that labor tends to follow available jobs.[1]

Francois Perroux asserts that regional economies develop as "growth poles," based upon clusters surrounding motor industries.[2] Motor industries are the industries such as chemical or automobile manufacturing that form the core of the national economy. They are born as a result of social change, new technologies, and new resources.

Most students of regional economics contend that a skilled labor force is an important regional resource (although they often fail to admit the complexities involved in understanding the precise nature of skill). The labor force is, to some degree, mobile, and a number of theorists have attempted to determine the most significant factors influencing mobility.

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[1]Lee Donne Olvey, Regional Growth and Inter-Regional Migration -- Their Pattern of Inter-Action, doctoral thesis, Department of Economics, Harvard University, Cambridge, Massachusetts, April, 1970.

[2]Francois Perrous, "Note on the Concept of Growth Poles," in Regional Economics, David L. McKee, Editor, New York: The Free Press, 1970, pp. 93-103.

The usual explanatory variables chosen are the relative wage and unemployment rate in the regions studied. For example, Joseph Rabianski carried out an econometric study of 48 of the 101 SMSA's with 250,000 or more population, and noted that both relative mean wage and relative unemployment are significant determinants of migration rates.[1] Rarely do such theorists distinguish the wages of different occupation groups or the unemployment rates of residents in different education and occupation categories.

Aba Schwartz notes that, the larger the variance of the wage distribution within one or both of two regions, the greater the likelihood that some individuals will migrate in a direction opposite that suggested by the difference in the mean wages of the regions.[2]

Lee Olvey finds in his econometric work that wage differentials between regions, corrected for mean educational attainment differentials, are important in explaining inter-regional migration, and that expected unemployment is important in explaining out-migration from a region.[3] Lowell Gallaway also concludes that economic advantage is an important determinant of migration.[4]

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[1]Joseph Rabianski, "Real Earnings and Human Migration," The Journal of Human Resources, Vol. VI, No. 2, Spring, 1971, pp. 185-192.

[2]Aba Schwartz, "On Efficiency of Migration," The Journal of Human Resources, Vol VI, No. 2, pp. 193-205.

[3]Lee Donne Olvey, p. 121, in particular.

[4]Lowell E. Gallaway, Manpower Economics, Illinois: Richard D. Irwin, Inc., 1971.

The economic theories of migration and industrial location generally fail to consider explicitly the ways in which migration and location affect social stratification. Instead, their emphasis is either economic efficiency or regional economic growth.

Blau and Duncan, however, find that those who migrate from one region to another are likely to be above the mean in education and occupational status -- both with respect to the region from which they move and the region into which they move.[1] Further, migrants tend to move into communities of higher occupational status than those they leave. This tends to mean that migration is in the direction of urban places, where occupational status is high. Interestingly, the education level of people in places to which migrants tend to move is higher than that in places migrants leave -- indicating that migrants themselves possess somewhat less relative educational advantage after migrating than before.

Blau and Duncan have shown that mean occupational status differs significantly from community to community. It is essential to continue Blau and Duncan's analysis and ask <u>why</u> the mean occupational status should differ among regions -- and whether <u>distributions</u> also differ among regions.

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[1] Blau and Duncan, Chapter VII.

IV. The Model

An analysis of the bodies of theory and evidence discussed in the previous sections suggests that no one of the theories in each area in some fashion "best explains the evidence". In part, this is because the evidence available is weak and the theories are ill-defined. But, to a large extent, the theories are simply not comparable -- the problems one theory sets out to answer are not those another theory was proposed to explain.[1]

It is consequently not possible to select a body of theory on the sole basis of its ability to "explain the evidence." It is, instead, necessary to seek a theory which establishes a conceptual framework in which the questions to be studied can be effectively and logically posed.

The classical economic theories discussed above in many respects lack the concepts necessary effectively to raise important questions about poverty. Consider, as an example, human capital theory. The theory rests on the assumption that human capital is paid its marginal product. The poor receive low wages because they have a low marginal product, and their marginal product is low, it is said, because they have little human capital.

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[1] For example, the classical economic theory of the labor market accepts the production function and the organization of work as essentially unproblematic and given. The Marxist theory, on the other hand, considers that the origin of the production process is itself a central problem for research.

To be other than tautological, the theory requires independent definitions of human capital and marginal product. A measure of an individual's human capital should include both the amount of on-the-job training and the amount of general education the individual possesses. Using these measures, the theory suggests that the poor are poor because they receive insufficient training. The theory then asserts that this lack of training is due to the fact that the return-on-investment in the human capital of the poor is low. One must now ask why this return is low. The exhausting progression of questions such as these can be continued, and the theory, in the process, becomes quite complex.[1]

This short analysis of the human capital approach suggests that a theory which begins with concepts that pertain primarily to characteristics of workers is unable in a simple fashion to explicate poverty. An adequate theory should begin with concepts describing the relationship between the worker and the job situation. Both the dual labor market and radical theories contain such concepts, although neither of these frameworks has received extensive empirical attention.

The dual labor market theory appears particularly appropriate as a basis for a structural model of underemployment, because the theory allows a statement of the research question in structural terms:

> What are the determinants of the relative sizes of the primary and secondary labor forces in Massachusetts, and to what extent can public policy alter the primary - secondary composition of the state's labor market.

---

[1] These comments are not intended as a general criticism of human capital theory; the discussion is presented to argue that human capital theory is inappropriate in the study of poverty.

In addition, the theory is formulated on the basis of a number of feedback relationships among, for example, wages and training.[1]

Aggregation, Boundary, and Time-Horizon

The dual labor market theory provides a conceptual framework in which important questions regarding underemployment can be raised. The formal model developed in this section and analyzed in the remainder of the paper is formulated on the basis of that theory. The model, however, is a deliberate simplification of some of the realities with which the theory is concerned. The model is, hopefully, consistent with the theory and yet sufficiently simple that it can be stated in precise mathematical terms and analyzed formally through computer simulation.

The basic principle on which the model was formulated can be stated: Include as variables in the model the smallest number of elements consistent with the theory and yet necessary for the analysis of the questions posed at the outset of the study. The principle, of course, is merely a guide -- it is hardly a formal procedure. Unfortunately, the principle was not always followed, and some details in the model are probably not strictly necessary at this stage.

The theory suggests that production relations within the firm preserve and reinforce the two labor market structure, and that the existence of two labor markets influences the characteristics of workers in the community. A modelling effort might, therefore, consider either a micro-

[1] Radical theory provides these same benefits. Radical theory, however, is considerably more comprehensive as a theory of society than the dual labor market theory, and, for the purposes of this study, the additional complexity of radical analysis may be inappropriate.

analysis of the social relations of production, hiring, and training within a firm, or a macro-analysis of social stratification and the composition of the labor market within the state. The latter approach has been employed in this study, in the belief that, for policy purposes, an understanding of the statewide stratification process is more important than an understanding of the sociology of the firm. This is, however, at least partly an empirical question and, in fact, both levels of analysis should probably be pursued in separate modelling studies.

Within each of the two labor markets suggested by the theory, there is considerable variation in jobs. Medical doctors, teachers, unionized construction workers, and college professors are all in the primary sector; motel desk clerks, household help, and unskilled labor are all in the secondary sector. One major empirical issue which dual labor market theorists have not yet resolved concerns the precise job composition of the two sectors. Some theorists, particularly Barry Bluestone, argue that the division is basically by industry; others believe that jobs within a single industry may fall in both sectors. David Gordon has conducted some quantitative analysis in this area.[1]

For purposes of this study, it is probably sufficient at this stage to consider that within each sector all jobs are identical -- although this is clearly a simplification. In the model, four labor market sectors are included:

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[1] David Gordon, "Class, Productivity, and the Ghetto: A study of Labor Market Stratification," Unpublished PhD Dissertation, Harvard University, 1971.

Primary Manufacturing
Primary Services
Secondary Manufacturing
Secondary Services

The service-manufacturing distinction was originally maintained in order to investigate the possible effects of the continued expansion and professionalization of the services and the increasing natural resource and pollution control costs in manufacturing. Neither of these matters has been analyzed at the time of this writing, and the service-manufacturing distinction is probably unnecessary at this stage.

Determination of the system boundary is closely related to the choice of time-horizon. It is at once evident from the theory that the origin of two labor markets is the result of many complex social developments in the United States. A model which would represent these social developments -- such as the rise of technology, the formation of unions, and the establishment of federal social welfare programs -- would be nothing less than a general model of the social history of America. On the other hand, the dual labor market structure, as it presently exists and has existed for several decades, is, according to the theory, maintained by a system of interactions involving wages, training, and productivity. Consequently, a model might represent the existing two-market structure without accounting, formally, for the social development of the structure.[1]

---

[1] Jean Piaget distinguishes the study of the behavior of a single structure, which he terms synchronic analysis, from the study of the sequential development of a series of structures, which he terms diachronic analysis. According to the Piagetian theory of human cognition, four psychological structures develop in sequence, beginning at birth and culminating in "formal operational" adult intelligence. Piaget is concerned both with the behavior associated with each of the four stages and with the processes which lead one structure to adapt and become another.

Of interest in a model of the dual labor market structure is the behavior of the system over a period of about a generation, twenty to forty years. The present model encompasses the period 1960-2000. The model embodies a representation of:

1) the influence of wages and skills on the growth of jobs in the primary and secondary labor markets;

2) the effect of labor market composition on population migration, wages, and skills; and

3) the effect of adult status on the educational attainment of youth.

The model is, for ease of discussion, written in several sectors. These are summarized in detail below. The following diagram indicates the major feedback relationships included in the model.

Model Equations

The model is a feedback loop structure written in mathematical terms. The mathematical model structure is composed of two kinds of variables -- levels and rates.

> A feedback loop is composed of two kinds of variables, called here rate and level variables. These two kinds of variables are necessary and sufficient. The simplest possible feedback loop must contain one of each. A feedback loop is a structure within which a decision point -- the rate equation -- controls a flow or action stream. The action is accumulated (integrated) to generate a system level. Information about the level is the basis on which the flow rate is controlled.
>
> The distinction between rates and levels -- often with other terminology -- is recognized in many fields. In economics flows and stocks are often used to mean the same as rates and levels mean here. ....
>
> In a feedback loop the level variables are accumulations or integrations. A bank balance, the number of people in a city, the number of new enterprises, or the amount of slum housing are all level variables. Each results from accumulating or integrating the inward and outward flows. The rates of flow cause the levels to change. The levels provide the information

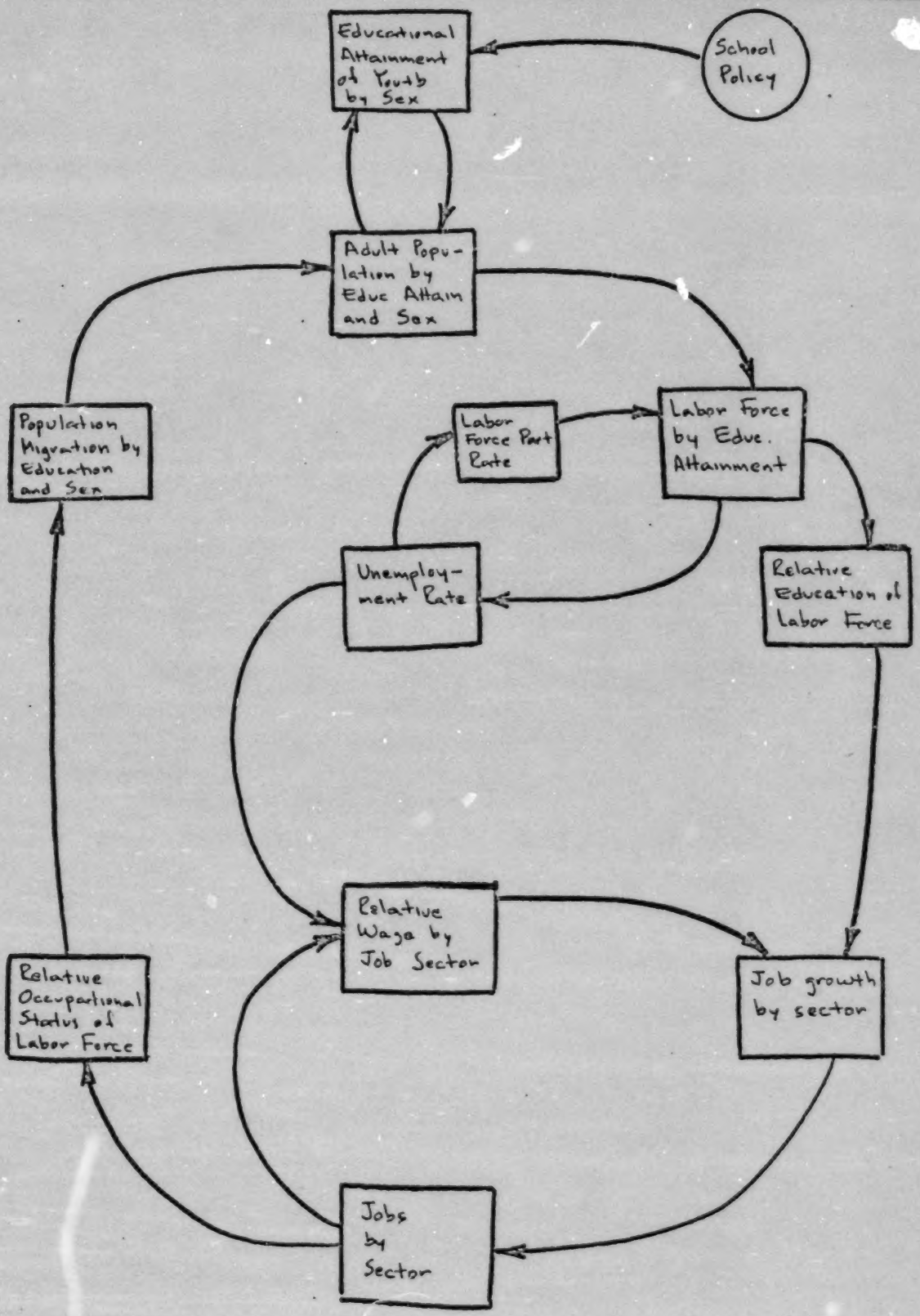
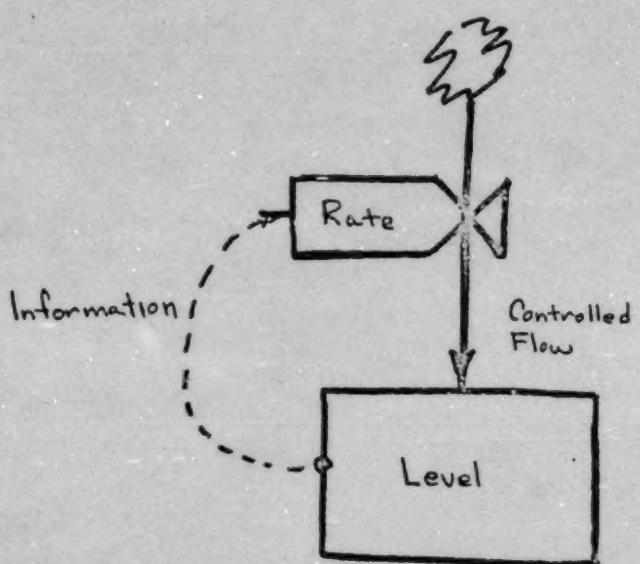

Educational Attainment of Youth by Sex
School Policy
Adult Population by Educ Attain and Sex
Population Migration by Education and Sex
Labor Force Part Rate
Labor Force by Educ. Attainment
Unemployment Rate
Relative Education of Labor Force
Relative Wage by Job Sector
Relative Occupational Status of Labor Force
Job growth by sector
Jobs by Sector

Figure 4-1 Feedback Loop Diagram

Inputs to the rate equations which control the flows. The rate variables depend only on information about the levels. No rate can directly affect any other rate and no level directly affects any other level. One level can affect another only through an intervening rate. Any path through the structure of a system will encounter alternating levels and rates, never two variables of the same type in succession.

The rate equations are the statements of system policy. They determine how the available information is converted to an action stream. Within each rate equation there is explicitly or implicitly a goal toward or away from which that decision point in the system is striving. There is also a process whereby the observed condition of a system is detected. It is the observed condition, not the true condition, that determines action. Very often in systems the perceived condition of the system is distorted and lags with respect to the true condition. A rate equation states the discrepancy between the goal and the observed condition. And finally, the rate equation states the action that will result from the discrepancy.[1]



[1] Jay W. Forrester, Urban Dynamics, Cambridge: MIT Press, 1969, pp. 13-14

The model equations have been written in a computer language called DYNAMO, which permits model behavior to be simulated on a computer.[1]

In the model, several simple structures are repeated many times. For example, the structure which represents the growth of primary manufacturing jobs, given the wage and skill mix of the population, is identical in form to the structure which represents the growth of primary service jobs. For ease of exposition, whenever a structure has been duplicated in this way, it has been defined as a special dynamo "macro" function and given a name. The structure representing the growth of jobs, for example, is called TXJ (type'"x" jobs).

In the sections below, the dynamo equations and flow diagrams for each sector of the model are presented in detail.

---

[1] Alexander Pugh, Dynamo User's Manual, Cambridge: MIT Press, 1970

Male and Female Demographic Sectors

These sectors include representations of the size, age structure, and educational attainment of the population of the Commonwealth of Massachusetts. The male and female sectors are identical in form.

In the model, the population has been disaggregated into four age groups:

children (age 0-14)
teenagers (age 15-19)
adults (age 20-64)
aging adults (age 65 and above)

This division was selected primarily because labor force participation and fertility and migration characteristics differ significantly among the groups. In fact, of course, the groups are not completely homogeneous with respect to these characteristics; for example, women are more likely to bear children in the age period 20-44 than in the period 45-64. A careful empirical consideration of the problems of age grouping appears in H. R. Hamilton et al, Systems Simulation for Regional Analysis.[1]

The use of only four age groups leads to one rather important technical problem. Consider, for example, the adult age group (age 20-64). In the model, adults are assumed to be uniformly distributed in the group -- that is, exactly 1/45 of the adult population are assumed to be each single year of age from 20 to 64. In reality, however, during a period of rising population, the number of youth turning 20 years old is considerably greater than the number of adults becoming 65. There are likely to be more 20-year olds than 21-year olds, more 30-year olds than 40-year olds. Consequently, the model implicitly

[1] H. R. Hamilton et al, Systems Simulation for Regional Analysis: An Application to River-Basin Planning, Cambridge: MIT Press, 1969, p. 133f.

CGAM college graduate aging men (65 and over)
SCAM some college aging men
OGAM occupational education graduate men
HGAM high school graduate aging men
HOAM high school dropout aging men

CGAW college graduate aging women (65 and over)
SCAW some college aging women
OGAW occupational education graduate women
HGAM high school graduate aging women
HOAM high school dropout aging women

Children and teenagers are grouped according to the educational attainment of the head-of-household of their family of origin.

BCGF boys of college graduate families (age 0-14)
BSCF boys of some college families
BOGF boys of occupational education graduate families
BHGF boys of high school graduate families
BHOF boys of high school dropout families

GCGF girls of college graduate families (age 0-14)
GSCF girls of some college families
GOGF girls of occupational education graduate families
GHGF girls of high school graduate families
GHOF girls of high school dropout families

YCGF male youth of college graduate families (age 15-19)
YSCF male youth of some college families
YOGF male youth of occupational education graduate families
YHGF male youth of high school graduate families
YHOF male youth of high school dropout families

VCGF female youth of college graduate families (age 15-19)
VSCF female youth of some college families
VOGF female youth of occupational education graduate families
VHGF female youth of high school graduate families
VHOF female youth of high school dropout families

The model demographic sector is composed of three basic structures, one describing the birth and aging of children and teenagers, the second describing the educational attainment of youth, and the third describing the aging of adults. Each of these structures is written as a macro function in the model.

over-represents the older population and under-represents the younger population in the adult category. This has the effect of "aging" too many people from the adult to the aging-adult group each year, and since the death rate is high in the aging adult group, the overall model population tends to drift below the true population over time.

This problem is easily corrected by increasing the number of population age groups in the model. The increased accuracy of the demographic results obtained by adding age groupings must be compared with the cost of increasing the size of the model -- and, as well, with the expected accuracy of the other model sectors.[1]

The model population is disaggregated into five educational attainment groups:

high school dropouts (0-11 years completed)
high school graduates (12 years completed)
occupational education graduates (12 years completed)
some college (13-15 years completed)
college graduates (16 or more years completed)

For adults and aging adults, this produces the following categories:

CGM college graduate men (age 20-64)
SCM some college men
OGM occupational education graduate men
HGM high school graduate men
HOM high school dropout men

CGW college graduate women (age 20-64)
SCW some college women
OGW occupational education graduate women
HGW high school graduate women
HOM high school dropout women

[1]For estimates of the extent of error introduced by age groupings of various sizes under different birth rate assumptions, see Michael S. Garet, "A Study of the Educational Enrollment and Attainment of the American Population," unpublished paper, 1972, p. 6.

The macro function CEXF (children of education-"x" families) describes the aging and migration of children and teenagers. The macro appears ten times in the model, once each for the boys and girls of each parent education group. A flow diagram (Figure 4-2) shows the internal structure of the CEXF macro. Newborn children enter the child population level and 1/15 of the children in the level become teenagers each year. Children migrate into and out of Massachusetts with their parents.[1] One fifth of the teenagers become adults each year; their educational attainment is modeled in macro TEXFCG, discussed below. In the model, teenagers migrate independently of their parents. This simplification is no doubt invalid for teens 16 and 17 years old, but because the migration formulation is similar for teenagers and adults, one can simply imagine that the "independent" young teenage migrants are in fact migrating with their adult parents.

Migration rates in the model, for teenagers, adults, and aging adults, are determined by the relative occupational status and unemployment in

---

[1] Initial 1960 populations in each of the education-age groups and parameters regarding fertility and completed family size were generally obtained from the 1960 and 1970 Census of Population, General Social and Economic Characteristics, Massachusetts. Unfortunately, many of the necessary data do not appear cross-classified by educational attainment and age, in Census publications. The Public Use Sample of the 1960 and 1970 Census contains all the necessary data, but use of the sample will require a rather considerable investment of time and expense. Furthermore, fertility and completed family size change over time to some extent; these parameters are considered constant in the present version of the model.

In the author's opinion, more accurate parameters should be obtained only after model behavior is well understood and the potential usefulness of the model for policy or theoretical purposes has been evaluated. Improved demographic accuracy would also require further disaggregation by age, as is mentioned in the text. This problem is probably more severe than parameter error in this sector.

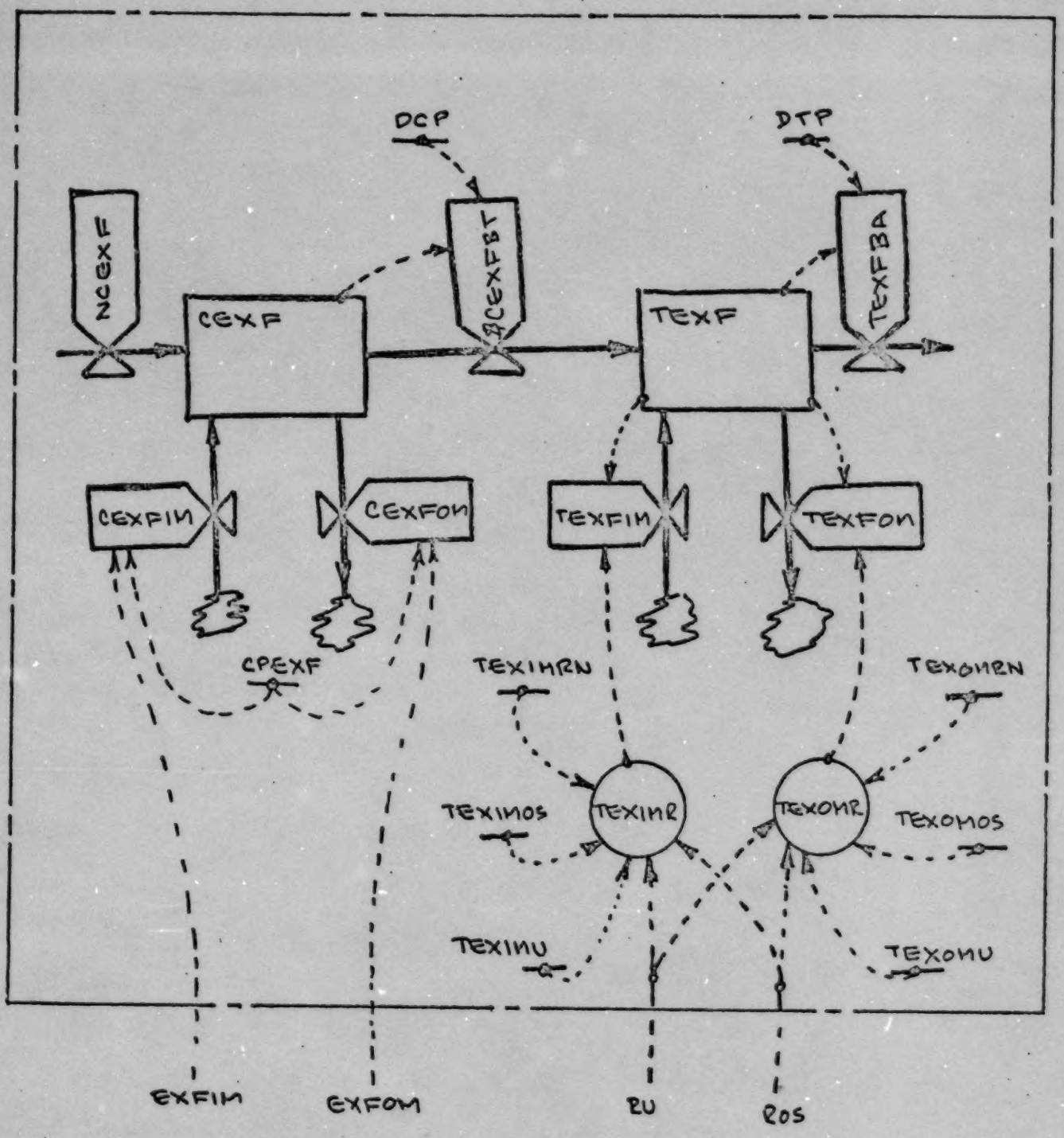


Figure 4-2 Demographic Sector -- CEXF macro function

```
MACRO CEXF(CEXFN,NCEXF,EXFIM,EXFOM,CEXFIM,CEXFOM,
  CPEXF,TEXF,TEXFN,TEXFIM,TEXIMRN,TEXIMOS,TEXIMU,
  TEXFOM,TEXOMRN,TEXOMOS,TEXOMU,TEXFBA)

CEXF.K=CEXF.J+(DT)(NCEXF.J+CEXFIM.J-CEXFOM.J-          1, L
  $CEXFBT.J)
CEXF=CEXFN                                             1.1, N
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
             FAMILIES (PEOPLE)
    NCEXF  - NEW CHLDRN OF ED-"X" FAMILIES (PEOPLE/YR)
    CEXFIM - CHLDRN OF ED-"X" FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    CEXFOM - CHLDRN OF ED-"X" FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    $CEXFBT- CHLDRN OF ED-"X" FAMILIES BECOMING TEENS
             (PEOPLE/YR)
    CEXFN  - CHLDRN OF ED-"X" FAMILIES INITIAL (PEOPLE)

CEXFIM.K=EXFIM.K*CPEXF                                 2, A
    CEXFIM - CHLDRN OF ED-"X" FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    EXFIM  - ED-"X" FAMILIES IN-MIGRATION (FAMILIES/YR)
    CPEXF  - CHLDRN PER ED-"X" FAMILY (PEOPLE/FAMILY)

CEXFOM.K=EXFOM.K*CPEXF                                 3, A
    CEXFOM - CHLDRN OF ED-"X" FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    EXFOM  - ED-"X" FAMILIES OUT-MIGRATION (FAMILIES/YR)
    CPEXF  - CHLDRN PER ED-"X" FAMILY (PEOPLE/FAMILY)

$CEXFBT.K=CEXF.K/DCP                                   4, A
    $CEXFBT- CHLDRN OF ED-"X" FAMILIES BECOMING TEENS
             (PEOPLE/YR)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
             FAMILIES (PEOPLE)
    DCP    - DURATION OF THE CHILDHOOD PERIOD (YEARS)

TEXF.K=TEXF.J+(DT)($CEXFBT.J+TEXFIM.J-TEXFOM.J-        5, L
  TEXFBA.J)
TEXF=TEXFN                                             5.1, N
    TEXF   - TEENS OF ED-"X" FAMILIES (PEOPLE)
    $CEXFBT- CHLDRN OF ED-"X" FAMILIES BECOMING TEENS
             (PEOPLE/YR)
    TEXFIM - TEENS OF ED-"X" FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    TEXFOM - TEENS OF ED-"X" FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    TEXFN  - TEENS OF ED-"X" FAMILIES INITIAL (PEOPLE)
```

```
TEXFIM.K=TEXF.K*STEXIMR.K                                    6, A
    TEXFIM - TEENS OF ED-"X" FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    TEXF   - TEENS OF ED-"X" FAMILIES (PEOPLE)
    STEXIMR- TEENS OF ED-"X" FAMILIES IN-MIGRATION RATE
             (PERCENT/YR)

STEXIMR.K=TEXIMRN+TEXIMOS*1.44*LOGN(ROS.K)-                  7, A
  TEXIMU*1.44*LOGN(RU.K)
    STEXIMR- TEENS OF ED-"X" FAMILIES IN-MIGRATION RATE
             (PERCENT/YR)
    TEXIMRN- TEENS OF ED-"X" FAMILIES IN-MIG RATE NORMAL
             (PERCENT/YR)
    TEXIMOS- TEENS OF ED-"X" FAMILIES IN-MIG DUE TO OCC
             STATUS (%/YR)
    ROS    - RELATIVE OCCUPATIONAL STATUS
             (DIMENSIONLESS)
    TEXIMU - TEENS OF ED-"X" FAMILIES IN-MIG DUE TO UNEM
             (%/YR)
    RU     - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)

TEXFOM.K=TEXF.K*STEXOMR.K                                    8, A
    TEXFOM - TEENS OF ED-"X" FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    TEXF   - TEENS OF ED-"X" FAMILIES (PEOPLE)
    STEXOMR- TEENS OF ED-"X" FAMILIES OUT-MIGRATION RATE
             (PERCENT/YR)

STEXOMR.K=TEXOMRN-TEXOMOS*1.44*LOGN(ROS.K)+                  9, A
  TEXOMU*1.44*LOGN(RU.K)
    STEXOMR- TEENS OF ED-"X" FAMILIES OUT-MIGRATION RATE
             (PERCENT/YR)
    TEXOMRN- TEENS OF ED-"X" FAMILIES OUT-MIG RATE
             NORMAL (PERCENT/YR)
    TEXOMOS- TEENS OF ED-"X" FAMILIES OUT-MIG DUE TO OCC
             STATUS (%/YR)
    ROS    - RELATIVE OCCUPATIONAL STATUS
             (DIMENSIONLESS)
    TEXOMU - TEENS OF ED-"X" FAMILIES OUT-MIG DUE TO
             UNEM (%/YR)
    RU     - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)

TEXFBA.K=TEXF.K/DTP                                          10, A
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    TEXF   - TEENS OF ED-"X" FAMILIES (PEOPLE)
    DTP    - DURATION OF THE TEENAGE PERIOD (YEARS)

MEND

DCP=15                                                       .1, C
DTP=5                                                        .2, C
    DCP    - DURATION OF THE CHILDHOOD PERIOD (YEARS)
    DTP    - DURATION OF THE TEENAGE PERIOD (YEARS)
```

```
BCGF.K=CEXF(BCGFN,NBCGF.K,CGFIM.K,CGFOM.K,BCGFIM.K, 1, A
  BCGFOM.K,BPCGF,YCGF.K,YCGFN,YCGFIM.K,YCGIMRN,
  YCGIMOS,YCGIMU,YCGOM.K,YCGOMRN,YCGOMOS,YCGOMU,
  YCGFBA.K)
BCGFN=52500                                                    1.3, C
    BCGF   - BOYS OF CG FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
               FAMILIES (PEOPLE)
    BCGFN  - BOYS OF CG FAMILIES INITIAL (PEOPLE)
    NBCGF  - NEW BOYS OF CG FAMILIES (PEOPLE/YR)
    CGFIM  - CG FAMILIES IN-MIGRATION (FAMILIES/YR)
    CGFOM  - CG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    BCGFIM - BOYS OF CG FAMILIES IN-MIGRATION (PEOPLE/
               YR)
    BCGFOM - BOYS OF CG FAMILIES OUT-MIGRATION (PEOPLE/
               YR)
    BPCGF  - BOYS PER CG FAMILY (PEOPLE/FAMILY)
    YCGF   - MALE YOUTH OF CG FAMILIES (PEOPLE)
    YCGFN  - MALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
    YCGFIM - MALE YOUTH OF CG FAMILIES IN-MIGRATION
               (PEOPLE/YR)
    YCGIMRN- MALE YOUTH OF CG FAMILIES IN-MIG RATE
               NORMAL (PERCENT/YR)
    YCGIMOS- MALE YOUTH OF CG FAMILIES IN-MIG DUE TO OCC
               STATUS (%/YR)
    YCGIMU - MALE YOUTH OF CG FAMILIES IN-MIG DUE TO
               UNEM (%/YR)
    YCGOMRN- MALE YOUTH OF CG FAMILIES OUT-MIG RATE
               NORMAL (PERCENT/YR)
    YCGOMOS- MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO
               OCC STATUS (%/YR)
    YCGOMU - MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO
               UNEM (%/YR)
    YCGFBA - MALE YOUTH OF CG FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
```

```
NBCGF.K=CGF.K*CGFBBR                                    2, A
CGFBBR=1.25/45                                          2.1, N
BPCGF=.66*1.25                                          2.2, N
YCGFN=13500                                             2.3, C
YCGIMRN=0                                               2.4, C
YCGIMOS=0                                               2.5, C
YCGIMU=0                                                2.6, C
YCGOMRN=0                                               2.7, C
YCGOMOS=0                                               2.8, C
YCGOMU=0                                                2.9, C
```

NBCGF - NEW BOYS OF CG FAMILIES (PEOPLE/YR)
CGF - CG FAMILIES (FAMILIES)
CGFBBR - CG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
BPCGF - BOYS PER CG FAMILY (PEOPLE/FAMILY)
YCGFN - MALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
YCGIMRN- MALE YOUTH OF CG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YCGIMOS- MALE YOUTH OF CG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YCGIMU - MALE YOUTH OF CG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YCGOMRN- MALE YOUTH OF CG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YCGOMOS- MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YCGOMU - MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
BSCF.K=CEXF(BSCFN,NBSCF.K,SCFIM.K,SCFOM.K,BSCFIM.K, 3, A
  BSCFOM.K,BPSCF,YSCF.K,YSCFN,YSCFIM.K,YSCIMRN,
  YSCIMOS,YSCIMU,YSCFOM.K,YSCOMRN,YSCOMOS,YSCOMU,
  YSCFBA.K)
BSCFN=60000                                              3.3, C
```

BSCF - BOYS OF SC FAMILIES (PEOPLE)
CEXF - **MACRO FUNCTION** CHLDRN OF ED-"X" FAMILIES (PEOPLE)
BSCFN - BOYS OF SC FAMILIES INITIAL (PEOPLE)
NBSCF - NEW BOYS OF SC FAMILIES (PEOPLE/YR)
SCFIM - SC FAMILIES IN-MIGRATION (FAMILIES/YR)
SCFOM - SC FAMILIES OUT-MIGRATION (FAMILIES/YR)
BSCFIM - BOYS OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
BSCFOM - BOYS OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
BPSCF - BOYS PER SC FAMILY (PEOPLE/FAMILY)
YSCF - MALE YOUTH OF SC FAMILIES (PEOPLE)
YSCFN - MALE YOUTH OF SC FAMILIES INITIAL (PEOPLE)
YSCFIM - MALE YOUTH OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
YSCIMRN - MALE YOUTH OF SC FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YSCIMOS - MALE YOUTH OF SC FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YSCIMU - MALE YOUTH OF SC FAMILIES IN-MIG DUE TO UNEM (%/YR)
YSCFOM - MALE YOUTH OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
YSCOMRN - MALE YOUTH OF SC FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YSCOMOS - MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YSCOMU - MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO UNEM (%/YR)
YSCFBA - MALE YOUTH OF SC FAMILIES BECOMING ADULTS (PEOPLE/YR)

```
NBSCF.K=SCF.K*SCFBBR                                    4, A
SCFBBR=1.4/45                                           4.1, N
BPSCF=.66*1.4                                           4.2, N
YSCFN=14400                                             4.3, C
YSCIMRN=0                                               4.4, C
YSCIMOS=0                                               4.5, C
YSCIMU=0                                                4.6, C
YSCOMRN=0                                               4.7, C
YSCOMOS=0                                               4.8, C
YSCOMU=0                                                4.9, C
```

NBSCF - NEW BOYS OF SC FAMILIES (PEOPLE/YR)
SCF - SC FAMILIES (FAMILIES)
SCFBBR - SC FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
BPSCF - BOYS PER SC FAMILY (PEOPLE/FAMILY)
YSCFN - MALE YOUTH OF SC FAMILIES INITIAL (PEOPLE)
YSCIMRN- MALE YOUTH OF SC FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YSCIMOS- MALE YOUTH OF SC FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YSCIMU - MALE YOUTH OF SC FAMILIES IN-MIG DUE TO UNEM (%/YR)
YSCOMRN- MALE YOUTH OF SC FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YSCOMOS- MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YSCOMU - MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
BOGF.K=CEXF(BOGFN,NBOGF.K,OGFIM.K,OGFOM.K,BOGFIM.K, 5, A
  BOGFOM.K,BPOGF,YOGF.K,YOGFN,YOGFIM.K,YOGIMRN,
  YOGIMOS,YOGIMU,YOGFOM.K,YOGOMRN,YOGOMOS,YOGOMU,
  YOGFBA.K)
BOGFN=17500                                              5.3, C
    BOGF   - BOYS OF OG FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
             FAMILIES (PEOPLE)
    BOGFN  - BOYS OF OG FAMILIES INITIAL (PEOPLE)
    NBOGF  - NEW BOYS OF OG FAMILIES (PEOPLE/YR)
    OGFIM  - OG FAMILIES IN-MIGRATION (FAMILIES/YR)
    OGFOM  - OG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    BOGFIM - BOYS OF OG FAMILIES IN-MIGRATION (PEOPLE/
             YR)
    BOGFOM - BOYS OF OG FAMILIES OUT-MIGRATION (PEOPLE/
             YR)
    BPOGF  - BOYS PER OG FAMILY (PEOPLE/FAMILY)
    YOGF   - MALE YOUTH OF OG FAMILIES (PEOPLE)
    YOGFN  - MALE YOUTH OF OG FAMILIES INITIAL (PEOPLE)
    YOGFIM - MALE YOUTH OF OG FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    YOGIMRN- MALE YOUTH OF OG FAMILIES IN-MIG RATE
             NORMAL (PERCENT/YR)
    YOGIMOS- MALE YOUTH OF OG FAMILIES IN-MIG DUE TO OCC
             STATUS (%/YR)
    YOGIMU - MALE YOUTH OF OG FAMILIES IN-MIG DUE TO
             UNEM (%/YR)
    YOGFOM - MALE YOUTH OF OG FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    YOGOMRN- MALE YOUTH OF OG FAMILIES OUT-MIG RATE
             NORMAL (PERCENT/YR)
    YOGOMOS- MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO
             OCC STATUS (%/YR)
    YOGOMU - MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO
             UNEM (%/YR)
    YOGFBA - MALE YOUTH OF OG FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
```

```
NBOGF.K=OGF.K*OGFBBR                                    6, A
OGFBBR=1.5/45                                           6.1, N
BPOGF=.66*1.5                                           6.2, N
YOGFN=4250                                              6.3, C
YOGIMRN=0                                               6.4, C
YOGIMOS=0                                               6.5, C
YOGIMU=0                                                6.6, C
YOGOMRN=0                                               6.7, C
YOGOMOS=0                                               6.8, C
YOGOMU=0                                                6.9, C
```

NBOGF - NEW BOYS OF OG FAMILIES (PEOPLE/YR)
OGF - OG FAMILIES (FAMILIES)
OGFBBR - OG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
BPOGF - BOYS PER OG FAMILY (PEOPLE/FAMILY)
YOGFN - MALE YOUTH OF OG FAMILIES INITIAL (PEOPLE)
YOGIMRN- MALE YOUTH OF OG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YOGIMOS- MALE YOUTH OF OG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YOGIMU - MALE YOUTH OF OG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YOGOMRN- MALE YOUTH OF OG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YOGOMOS- MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YOGOMU - MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
BHGF.K=CEXF(BHGFN,NBHGF.K,HGFIM.K,HGFOM.K,BHGFIM.K, 7, A
  BHGFOM.K,BPHGF,YHGF.K,YHGFN,YHGFIM.K,YHGIMRN,
  YHGIMOS,YHGIMU,YHFGOM.K,YHGOMRN,YHGOMOS,YHGOMU,
  YHGFBA.K)
BHGFN=175000                                              7.3, C
    BHGF   - BOYS OF HG FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
               FAMILIES (PEOPLE)
    BHGFN  - BOYS OF HG FAMILIES INITIAL (PEOPLE)
    NBHGF  - NEW BOYS OF HG FAMILIES (PEOPLE/YR)
    HGFIM  - HG FAMILIES IN-MIGRATION (FAMILIES/YR)
    HGFOM  - HG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    BHGFIM - BOYS OF HG FAMILIES IN-MIGRATION (PEOPLE/
               YR)
    BHGFOM - BOYS OF HG FAMILIES OUT-MIGRATION (PEOPLE/
               YR)
    BPHGF  - BOYS PER HG FAMILY (PEOPLE/FAMILY)
    YHGF   - MALE YOUTH OF HG FAMILIES (PEOPLE)
    YHGFN  - MALE YOUTH OF HG FAMILIES INITIAL (PEOPLE)
    YHGFIM - MALE YOUTH OF HG FAMILIES IN-MIGRATION
               (PEOPLE/YR)
    YHGIMRN- MALE YOUTH OF HG FAMILIES IN-MIG RATE
               NORMAL (PERCENT/YR)
    YHGIMOS- MALE YOUTH OF HG FAMILIES IN-MIG DUE TO OCC
               STATUS (%/YR)
    YHGIMU - MALE YOUTH OF HG FAMILIES IN-MIG DUE TO
               UNEM (%/YR)
    YHGOMRN- MALE YOUTH OF HG FAMILIES OUT-MIG RATE
               NORMAL (PERCENT/YR)
    YHGOMOS- MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO
               OCC STATUS (%/YR)
    YHGOMU - MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO
               UNEM (%/YR)
    YHGFBA - MALE YOUTH OF HG FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
```

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NBHGF.K=HGF.K*HGFBBR                                    8, A
HGFBBR=1.5/45                                           8.1, N
BPHGF=.66*1.5                                           8.2, N
YHGFN=42500                                             8.3, C
YHGIMRN=0                                               8.4, C
YHGIMOS=0                                               8.5, C
YHGIMU=0                                                8.6, C
YHGOMRN=0                                               8.7, C
YHGOMOS=0                                               8.8, C
YHGOMU=0                                                8.9, C
```

NBHGF - NEW BOYS OF HG FAMILIES (PEOPLE/YR)
HGF - HG FAMILIES (FAMILIES)
HGFBBR - HG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
BPHGF - BOYS PER HG FAMILY (PEOPLE/FAMILY)
YHGFN - MALE YOUTH OF HG FAMILIES INITIAL (PEOPLE)
YHGIMRN- MALE YOUTH OF HG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YHGIMOS- MALE YOUTH OF HG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YHGIMU - MALE YOUTH OF HG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YHGOMRN- MALE YOUTH OF HG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YHGOMOS- MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YHGOMU - MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
BHOF.K=CEXF(BHOFN,NBHOF.K,HOFIM.K,HOFOM.K,BHOFIM.K, 9, A
  BHOFOM.K,BPHOF,YHOF.K,YHOFN,YHOFIM.K,YHOIMRN,
  YHOIMOS,YHOIMU,YHOFOM.K,YHOOMRN,YHOOMOS,YHOOMU,
  YHOFBA.K)
BHOFN=430000                                              9.3, C
```

- BHOF - BOYS OF HO FAMILIES (PEOPLE)
- CEXF - **MACRO FUNCTION** CHLDRN OF ED-"X" FAMILIES (PEOPLE)
- BHOFN - BOYS OF HO FAMILIES INITIAL (PEOPLE)
- NBHOF - NEW BOYS OF HO FAMILIES (PEOPLE/YR)
- HOFIM - HO FAMILIES IN-MIGRATION (FAMILIES/YR)
- HOFOM - HO FAMILIES OUT-MIGRATION (FAMILIES/YR)
- BHOFIM - BOYS OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)
- BHOFOM - BOYS OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
- BPHOF - BOYS PER HO FAMILY (PEOPLE/FAMILY)
- YHOF - MALE YOUTH OF HO FAMILIES (PEOPLE)
- YHOFN - MALE YOUTH OF HO FAMILIES INITIAL (PEOPLE)
- YHOFIM - MALE YOUTH OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)
- YHOIMRN- MALE YOUTH OF HO FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
- YHOIMOS- MALE YOUTH OF HO FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
- YHOIMU - MALE YOUTH OF HO FAMILIES IN-MIG DUE TO UNEM (%/YR)
- YHOFOM - MALE YOUTH OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
- YHOOMRN- MALE YOUTH OF HO FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
- YHOOMOS- MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
- YHOOMU - MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO UNEM (%/YR)
- YHOFBA - MALE YOUTH OF HO FAMILIES BECOMING ADULTS (PEOPLE/YR)

```
NBHOF.K=HOF.K*HOFBBR                                    10, A
HOFBBR=1.8/45                                           10.1, N
BPHOF=.66*1.8                                           10.2, N
YHOFN=102000                                            10.3, C
YHOIMRN=0                                               10.4, C
YHOIMOS=0                                               10.5, C
YHOIMU=0                                                10.6, C
YHOOMRN=0                                               10.7, C
YHOOMOS=0                                               10.8, C
YHOOMU=0                                                10.9, C
```

NBHOF - NEW BOYS OF HO FAMILIES (PEOPLE/YR)
HOF - HO FAMILIES (FAMILIES)
HOFBBR - HO FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
BPHOF - BOYS PER HO FAMILY (PEOPLE/FAMILY)
YHOFN - MALE YOUTH OF HO FAMILIES INITIAL (PEOPLE)
YHOIMRN- MALE YOUTH OF HO FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YHOIMOS- MALE YOUTH OF HO FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YHOIMU - MALE YOUTH OF HO FAMILIES IN-MIG DUE TO UNEM (%/YR)
YHOOMRN- MALE YOUTH OF HO FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YHOOMOS- MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YHOOMU - MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
GCGF.K=CEXF(GCGFN,NGCGF.K,CGFIM.K,CGFOM.K,GCGFIM.K, 55, A
  GCGFOM.K,GPCGF,VCGF.K,VCGFN,VCGFIM.K,VCGIMRN,
  VCGIMOS,VCGIMU,VCGOM.K,VCGOMRN,VCGOMOS,VCGOMU,
  VCGFBA.K)
GCGFN=52500                                          55.3, C
```

GCGF - GIRLS OF CG FAMILIES (PEOPLE)
CEXF - **MACRO FUNCTION** CHLDRN OF ED-"X" FAMILIES (PEOPLE)
GCGFN - GIRLS OF CG FAMILIES INITIAL (PEOPLE)
NGCGF - NEW GIRLS OF CG FAMILIES (PEOPLE/YR)
CGFIM - CG FAMILIES IN-MIGRATION (FAMILIES/YR)
CGFOM - CG FAMILIES OUT-MIGRATION (FAMILIES/YR)
GCGFIM - GIRLS OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
GCGFOM - GIRLS OF CG FAMILIES OUT-MIGRATION (PEOPLE/YR)
GPCGF - GIRLS PER CG FAMILY (PEOPLE/FAMILY)
VCGF - FEMALE YOUTH OF CG FAMILIES (PEOPLE)
VCGFN - FEMALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
VCGFIM - FEMALE YOUTH OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
VCGIMRN- FEMALE YOUTH OF CG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VCGIMOS- FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VCGIMU - FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VCGOMRN- FEMALE YOUTH OF CG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VCGOMOS- FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VCGOMU - FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VCGFBA - FEMALE YOUTH OF CG FAMILIES BECOMING ADULTS (PEOPLE/YR)

```
NGCGF.K=CGF.K*CGFGBR                                    56, A
CGFGBR=1.25/45                                          56.1, N
GPCGF=.66*1.25                                          56.2, N
VCGFN=13500                                             56.3, C
VCGIMRN=0                                               56.4, C
VCGIMOS=0                                               56.5, C
VCGIMU=0                                                56.6, C
VCGOMRN=0                                               56.7, C
VCGOMOS=0                                               56.8, C
VCGOMU=0                                                56.9, C
```

NGCGF - NEW GIRLS OF CG FAMILIES (PEOPLE/YR)
CGF - CG FAMILIES (FAMILIES)
CGFGBR - CG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
GPCGF - GIRLS PER CG FAMILY (PEOPLE/FAMILY)
VCGFN - FEMALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
VCGIMRN- FEMALE YOUTH OF CG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VCGIMOS- FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VCGIMU - FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VCGOMRN- FEMALE YOUTH OF CG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VCGOMOS- FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VCGOMU - FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
GSCF.K=CEXF(GSCFN,NGSCF.K,SCFIM.K,SCFOM.K,GSCFIM.K, 57, A
  GSCFOM.K,GPSCF,VSCF.K,VSCFN,VSCFIM.K,VSCIMRN,
  VSCIMOS,VSCIMU,VSCFOM.K,VSCOMRN,VSCOMOS,VSCOMU,
  VSCFBA.K)
GSCFN=60000                                              57.3, C
    GSCF   - GIRLS OF SC FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
             FAMILIES (PEOPLE)
    GSCFN  - GIRLS OF SC FAMILIES INITIAL (PEOPLE)
    NGSCF  - NEW GIRLS OF SC FAMILIES (PEOPLE/YR)
    SCFIM  - SC FAMILIES IN-MIGRATION (FAMILIES/YR)
    SCFOM  - SC FAMILIES OUT-MIGRATION (FAMILIES/YR)
    GSCFIM - GIRLS OF SC FAMILIES IN-MIGRATION (PEOPLE/
             YR)
    GSCFOM - GIRLS OF SC FAMILIES OUT-MIGRATION (PEOPLE/
             YR)
    GPSCF  - GIRLS PER SC FAMILY (PEOPLE/FAMILY)
    VSCF   - FEMALE YOUTH OF SC FAMILIES (PEOPLE)
    VSCFN  - FEMALE YOUTH OF SC FAMILIES INITIAL
             (PEOPLE)
    VSCFIM - FEMALE YOUTH OF SC FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    VSCIMRN- FEMALE YOUTH OF SC FAMILIES IN-MIG RATE
             NORMAL (PERCENT/YR)
    VSCIMOS- FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO
             OCC STATUS (%/YR)
    VSCIMU - FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO
             UNEM (%/YR)
    VSCFOM - FEMALE YOUTH OF SC FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    VSCOMRN- FEMALE YOUTH OF SC FAMILIES OUT-MIG RATE
             NORMAL (PERCENT/YR)
    VSCOMOS- FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO
             OCC STATUS (%/YR)
    VSCOMU - FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO
             UNEM (%/YR)
    VSCFBA - FEMALE YOUTH OF SC FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
```

```
NGSCF.K=SCF.K*SCFGBR                                    58, A
SCFGBR=1.4/45                                           58.1, N
GPSCF=.66*1.4                                           58.2, N
VSCFN=14400                                             58.3, C
VSCIMRN=0                                               58.4, C
VSCIMOS=0                                               58.5, C
VSCIMU=0                                                58.6, C
VSCOMRN=0                                               58.7, C
VSCOMOS=0                                               58.8, C
VSCOMU=0                                                58.9, C
```

NGSCF - NEW GIRLS OF SC FAMILIES (PEOPLE/YR)
SCF - SC FAMILIES (FAMILIES)
SCFGBR - SC FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
GPSCF - GIRLS PER SC FAMILY (PEOPLE/FAMILY)
VSCFN - FEMALE YOUTH OF SC FAMILIES INITIAL (PEOPLE)
VSCIMRN- FEMALE YOUTH OF SC FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VSCIMOS- FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VSCIMU - FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO UNEM (%/YR)
VSCOMRN- FEMALE YOUTH OF SC FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VSCOMOS- FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VSCOMU - FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
GOGF.K=CEXF(GOGFN,NGOGF.K,OGFIM.K,OGFOM.K,GOGFIM.K, 59, A
  GOGFOM.K,GPOGF,VOGF.K,VOGFN,VOGFIM.K,VOGIMRN,
  VOGIMOS,VOGIMU,VOGFOM.K,VOGOMRN,VOGOMOS,VOGOMU,
  VOGFBA.K)
GOGFN=17500                                              59.3, C
```

GOGF - GIRLS OF OG FAMILIES (PEOPLE)
CEXF - **MACRO FUNCTION** CHLDRN OF ED-"X" FAMILIES (PEOPLE)
GOGFN - GIRLS OF OG FAMILIES INITIAL (PEOPLE)
NGOGF - NEW GIRLS OF OG FAMILIES (PEOPLE/YR)
OGFIM - OG FAMILIES IN-MIGRATION (FAMILIES/YR)
OGFOM - OG FAMILIES OUT-MIGRATION (FAMILIES/YR)
GOGFIM - GIRLS OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
GOGFOM - GIRLS OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)
GPOGF - GIRLS PER OG FAMILY (PEOPLE/FAMILY)
VOGF - FEMALE YOUTH OF OG FAMILIES (PEOPLE)
VOGFN - FEMALE YOUTH OF OG FAMILIES INITIAL (PEOPLE)
VOGFIM - FEMALE YOUTH OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
VOGIMRN- FEMALE YOUTH OF OG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VOGIMOS- FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VOGIMU - FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VOGFOM - FEMALE YOUTH OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)
VOGOMRN- FEMALE YOUTH OF OG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VOGOMOS- FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VOGOMU - FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VOGFBA - FEMALE YOUTH OF OG FAMILIES BECOMING ADULTS (PEOPLE/YR)

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NGOGF.K=OGF.K*OGFGBR                                    60, A
OGFGBR=1.5/45                                           60.1, N
GPOGF=.66*1.5                                           60.2, N
VOGFN=4250                                              60.3, C
VOGIMRN=0                                               60.4, C
VOGIMOS=0                                               60.5, C
VOGIMU=0                                                60.6, C
VOGOMRN=0                                               60.7, C
VOGOMOS=0                                               60.8, C
VOGOMU=0                                                60.9, C
    NGOGF  - NEW GIRLS OF OG FAMILIES (PEOPLE/YR)
    OGF    - OG FAMILIES (FAMILIES)
    OGFGBR - OG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/
             YR)
    GPOGF  - GIRLS PER OG FAMILY (PEOPLE/FAMILY)
    VOGFN  - FEMALE YOUTH OF OG FAMILIES INITIAL
             (PEOPLE)
    VOGIMRN- FEMALE YOUTH OF OG FAMILIES IN-MIG RATE
             NORMAL (PERCENT/YR)
    VOGIMOS- FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO
             OCC STATUS (%/YR)
    VOGIMU - FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO
             UNEM (%/YR)
    VOGOMRN- FEMALE YOUTH OF OG FAMILIES OUT-MIG RATE
             NORMAL (PERCENT/YR)
    VOGOMOS- FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO
             OCC STATUS (%/YR)
    VOGOMU - FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO
             UNEM (%/YR)
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GHGF.K=CEXF(GHGFN,NGHGF.K,HGFIM.K,HGFOM.K,GHGFIM.K, 61, A
  GHGFOM.K,GPHGF,VHGF.K,VHGFN,VHGFIM.K,VHGIMRN,
  VHGIMOS,VHGIMU,VHFGOM.K,VHGOMRN,VHGOMOS,VHGOMU,
  VHGFBA.K)
GHGFN=175000                                              61.3, C
    GHGF   - GIRLS OF HG FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
               FAMILIES (PEOPLE)
    GHGFN  - GIRLS OF HG FAMILIES INITIAL (PEOPLE)
    NGHGF  - NEW GIRLS OF HG FAMILIES (PEOPLE/YR)
    HGFIM  - HG FAMILIES IN-MIGRATION (FAMILIES/YR)
    HGFOM  - HG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    GHGFIM - GIRLS OF HG FAMILIES IN-MIGRATION (PEOPLE/
               YR)
    GHGFOM - GIRLS OF HG FAMILIES OUT-MIGRATION (PEOPLE/
               YR)
    GPHGF  - GIRLS PER HG FAMILY (PEOPLE/FAMILY)
    VHGF   - FEMALE YOUTH OF HG FAMILIES (PEOPLE)
    VHGFN  - FEMALE YOUTH OF HG FAMILIES INITIAL
               (PEOPLE)
    VHGFIM - FEMALE YOUTH OF HG FAMILIES IN-MIGRATION
               (PEOPLE/YR)
    VHGIMRN- FEMALE YOUTH OF HG FAMILIES IN-MIG RATE
               NORMAL (PERCENT/YR)
    VHGIMOS- FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO
               OCC STATUS (%/YR)
    VHGIMU - FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO
               UNEM (%/YR)
    VHGOMRN- FEMALE YOUTH OF HG FAMILIES OUT-MIG RATE
               NORMAL (PERCENT/YR)
    VHGOMOS- FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO
               OCC STATUS (%/YR)
    VHGOMU - FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO
               UNEM (%/YR)
    VHGFBA - FEMALE YOUTH OF HG FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
```

```
NGHGF.K=HGF.K*HGFGBR                                    62, A
HGFGBR=1.5/45                                           62.1, N
GPHGF=.66*1.5                                           62.2, N
VHGFN=42500                                             62.3, C
VHGIMRN=0                                               62.4, C
VHGIMOS=0                                               62.5, C
VHGIMU=0                                                62.6, C
VHGOMRN=0                                               62.7, C
VHGOMOS=0                                               62.8, C
VHGOMU=0                                                62.9, C
```

NGHGF - NEW GIRLS OF HG FAMILIES (PEOPLE/YR)
HGF - HG FAMILIES (FAMILIES)
HGFGBR - HG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
GPHGF - GIRLS PER HG FAMILY (PEOPLE/FAMILY)
VHGFN - FEMALE YOUTH OF HG FAMILIES INITIAL (PEOPLE)
VHGIMRN- FEMALE YOUTH OF HG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VHGIMOS- FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VHGIMU - FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VHGOMRN- FEMALE YOUTH OF HG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VHGOMOS- FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VHGOMU - FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO UNEM (%/YR)

```
GHOF.K=CEXF(GHOFN,NGHOF.K,HOFIM.K,HOFOM.K,GHOFIM.K, 63, A
  GHOFOM.K,GPHOF,VHOF.K,VHOFN,VHOFIM.K,VHOIMRN,
  VHOIMOS,VHOIMU,VHOFOM.K,VHOOMRN,VHOOMOS,VHOOMU,
  VHOFBA.K)
GHOFN=430000                                              63.3, C
    GHOF   - GIRLS OF HO FAMILIES (PEOPLE)
    CEXF   - **MACRO FUNCTION**  CHLDRN OF ED-"X"
             FAMILIES (PEOPLE)
    GHOFN  - GIRLS OF HO FAMILIES INITIAL (PEOPLE)
    NGHOF  - NEW GIRLS OF HO FAMILIES (PEOPLE/YR)
    HOFIM  - HO FAMILIES IN-MIGRATION (FAMILIES/YR)
    HOFOM  - HO FAMILIES OUT-MIGRATION (FAMILIES/YR)
    GHOFIM - GIRLS OF HO FAMILIES IN-MIGRATION (PEOPLE/
             YR)
    GHOFOM - GIRLS OF HO FAMILIES OUT-MIGRATION (PEOPLE/
             YR)
    GPHOF  - GIRLS PER HO FAMILY (PEOPLE/FAMILY)
    VHOF   - FEMALE YOUTH OF HO FAMILIES (PEOPLE)
    VHOFN  - FEMALE YOUTH OF HO FAMILIES INITIAL
             (PEOPLE)
    VHOFIM - FEMALE YOUTH OF HO FAMILIES IN-MIGRATION
             (PEOPLE/YR)
    VHOIMRN- FEMALE YOUTH OF HO FAMILIES IN-MIG RATE
             NORMAL (PERCENT/YR)
    VHOIMOS- FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO
             OCC STATUS (%/YR)
    VHOIMU - FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO
             UNEM (%/YR)
    VHOFOM - FEMALE YOUTH OF HO FAMILIES OUT-MIGRATION
             (PEOPLE/YR)
    VHOOMRN- FEMALE YOUTH OF HO FAMILIES OUT-MIG RATE
             NORMAL (PERCENT/YR)
    VHOOMOS- FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO
             OCC STATUS (%/YR)
    VHOOMU - FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO
             UNEM (%/YR)
    VHOFBA - FEMALE YOUTH OF HO FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
```

```
NGHOF.K=HOF.K*HOFGBR                                    64, A
HOFGBR=1.8/45                                           64.1, N
GPHOF=.66*1.8                                           64.2, N
VHOFN=102000                                            64.3, C
VHOIMRN=0                                               64.4, C
VHOIMOS=0                                               64.5, C
VHOIMU=0                                                64.6, C
VHOOMRN=0                                               64.7, C
VHOOMOS=0                                               64.8, C
VHOOMU=0                                                64.9, C
```

NGHOF - NEW GIRLS OF HO FAMILIES (PEOPLE/YR)
HOF - HO FAMILIES (FAMILIES)
HOFGBR - HO FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
GPHOF - GIRLS PER HO FAMILY (PEOPLE/FAMILY)
VHOFN - FEMALE YOUTH OF HO FAMILIES INITIAL (PEOPLE)
VHOIMRN- FEMALE YOUTH OF HO FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VHOIMOS- FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VHOIMU - FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO UNEM (%/YR)
VHOOMRN- FEMALE YOUTH OF HO FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VHOOMOS- FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VHOOMU - FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO UNEM (%/YR)

Massachusetts compared to the united States mean.[1] This formulation is consistent with the sociological and economic empirical evidence cited earlier. Sadly, to this author's knowledge, no one has done an interstate migration study in which migrants are classified by age, sex, and educational attainment.[2] Because exact parameter estimates are not presently available, "reasonable" parameter values were chosen, based on information in Hamilton, et al, and in Blau and Duncan.

The educational attainment of teenagers is modeled in macro TEXFCG (teenagers of education-"x" families becoming college graduates). The macro appears ten times in the model, once each for the male and female youth of each family education group. Figure 4-3 is a flow diagram of the structure of the macro. In the model, parent education is taken as the sole determinant of the normal attainment distribution of children. A more complete model might also include the effects of parent occupational status and income, although these additions are unlikely to change the results significantly.

The normal attainment distribution of teenagers from families of a particular education level is expressed in terms of five conditional probabilities: the probability a teen living in such a family will complete high school; the probability a teen will complete occupational education school; the probability a teen who completes high school will enroll in college; the probability a teen who completes occupational education school

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[1]The occupational status and unemployment sectors of the model are discussed below.

[2]The data necessary is available in the 1970 Public Use Sample of the U. S. Census.

```
MACRO TEXFCG(TEXFBA,NTEXFH,NTEXFO,NTEXFHE,NTEXFOE,
  NTEXFEC,TEXFSC,TEXFOG,TEXFHG,TEXFHO,TEXFCP,
  TEXFEOP,TEXFEHP,TEXFDOP,TEXFHOP,TEXFHP)

TEXFCG.K=$TEXFCG.K*TEXFBA.K                                    1, A
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    $TEXFCG- % TEENS OF ED-"X" FAMILIES BECOMING CG
             ADULTS (PERCENT)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)

TEXFSC.K=$TEXFSC.K*TEXFBA.K                                    2, A
    TEXFSC - TEENS OF ED-"X" FAMILIES BECOMING SC ADULTS
             (PEOPLE/YR)
    $TEXFSC- % TEENS OF ED-"X" FAMILIES BECOMING SC
             ADULTS (PERCENT)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)

TEXFOG.K=$TEXFOG.K*TEXFBA.K                                    3, A
    TEXFOG - TEENS OF ED-"X" FAMILIES BECOMING OG ADULTS
             (PEOPLE/YR)
    $TEXFOG- % TEENS OF ED-"X" FAMILIES BECOMING OG
             ADULTS (PERCENT)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)

TEXFHG.K=$TEXFHG.K*TEXFBA.K                                    4, A
    TEXFHG - TEENS OF ED-"X" FAMILIES BECOMING HG ADULTS
             (PEOPLE/YR)
    $TEXFHG- % TEENS OF ED-"X" FAMILIES BECOMING HG
             ADULTS (PERCENT)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)

TEXFHO.K=$TEXFHO.K*TEXFBA.K                                    5, A
    TEXFHO - TEENS OF ED-"X" FAMILIES BECOMING HO ADULTS
             (PEOPLE/YR)
    $TEXFHO- % TEENS OF ED-"X" FAMILIES BECOMING HO
             ADULTS (PERCENT)
    TEXFBA - TEENS OF ED-"X" FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
```

```
$TEXFCG.K=($TEXFH.K*$TEXFHE.K+$TEXFO.K*$TEXFOE.K)*  6, A
  $TEXFEC.K
    $TEXFCG- % TEENS OF ED-"X" FAMILIES BECOMING CG
               ADULTS (PERCENT)
    $TEXFH - % TEENS OF ED-"X" FAMILIES COMPLETING HS
               (PERCENT)
    $TEXFHE- % TEENS OF ED-"X" FAMILIES COMPLETING HS
               WHO ENROLL IN COL (%)
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
    $TEXFOE- % TEENS OF ED-"X" FAMILIES COMPLETING OE
               WHO ENROLL IN COL (%)
    $TEXFEC- % TEENS OF ED-"X" FAMILIES ENROLLING IN COL
               WHO GRADUATE (%)

$TEXFSC.K=($TEXFH.K*$TEXFHE.K+$TEXFO.K*$TEXFOE.K)*  7, A
  (1-$TEXFEC.K)
    $TEXFSC- % TEENS OF ED-"X" FAMILIES BECOMING SC
               ADULTS (PERCENT)
    $TEXFH - % TEENS OF ED-"X" FAMILIES COMPLETING HS
               (PERCENT)
    $TEXFHE- % TEENS OF ED-"X" FAMILIES COMPLETING HS
               WHO ENROLL IN COL (%)
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
    $TEXFOE- % TEENS OF ED-"X" FAMILIES COMPLETING OE
               WHO ENROLL IN COL (%)
    $TEXFEC- % TEENS OF ED-"X" FAMILIES ENROLLING IN COL
               WHO GRADUATE (%)

$TEXFOG.K=$TEXFO.K*(1-$TEXFOE.K)                    8, A
    $TEXFOG- % TEENS OF ED-"X" FAMILIES BECOMING OG
               ADULTS (PERCENT)
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
    $TEXFOE- % TEENS OF ED-"X" FAMILIES COMPLETING OE
               WHO ENROLL IN COL (%)

$TEXFHG.K=$TEXFH.K*(1-$TEXFHE.K)                    9, A
    $TEXFHG- % TEENS OF ED-"X" FAMILIES BECOMING HG
               ADULTS (PERCENT)
    $TEXFH - % TEENS OF ED-"X" FAMILIES COMPLETING HS
               (PERCENT)
    $TEXFHE- % TEENS OF ED-"X" FAMILIES COMPLETING HS
               WHO ENROLL IN COL (%)

$TEXFHO.K=1-$TEXFH.K-$TEXFO.K                       10, A
    $TEXFHO- % TEENS OF ED-"X" FAMILIES BECOMING HO
               ADULTS (PERCENT)
    $TEXFH - % TEENS OF ED-"X" FAMILIES COMPLETING HS
               (PERCENT)
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
```

```
$TEXFEC.K=NTEXFEC.K+(1-NTEXFEC.K)*TEXFCP*CP.K          11, A
    $TEXFEC- % TEENS OF ED-"X" FAMILIES ENROLLING IN COL
               WHO GRADUATE (%)
    NTEXFEC- NORMAL % TEENS OF ED-"X" FAMILIES ENROLLING
               IN COL WHO GRADUATE (%)
    CP     - COLLEGE PROGRAM FACTOR (DIMENSIONLESS)

$TEXFOE.K=NTEXFOE.K+(1-NTEXFOE.K)*TEXFEOP*EP.K         12, A
    $TEXFOE- % TEENS OF ED-"X" FAMILIES COMPLETING OE
               WHO ENROLL IN COL (%)
    NTEXFOE- NORMAL % TEENS OF ED-"X" FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)
    EP     - COLLEGE ENROLLMENT PROGRAM FACTOR
               (DIMENSIONLESS)

$TEXFHE.K=NTEXFHE.K+(1-NTEXFHE.K)*TEXFEHP*EP.K         13, A
    $TEXFHE- % TEENS OF ED-"X" FAMILIES COMPLETING HS
               WHO ENROLL IN COL (%)
    NTEXFHE- NORMAL % TEENS OF ED-"X" FAMILIES
               COMPLETING HS WHO ENROLL IN COL (%)
    EP     - COLLEGE ENROLLMENT PROGRAM FACTOR
               (DIMENSIONLESS)

$TEXFO.K=NTEXFO.K+(1-NTEXFH.K-NTEXFO.K)*TEXFDOP*       14, A
  OP.K+NTEXFH.K*TEXFHOP*OP.K
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
    NTEXFO - NORMAL % TEENS OF ED-"X" FAMILIES
               COMPLETING OE (PERCENT)
    NTEXFH - NORMAL % TEENS OF ED-"X" FAMILIES
               COMPLETING HS (PERCENT)
    OP     - OCCUPATIONAL EDUCATION PROGRAM FACTOR
               (DIMENSIONLESS)

$TEXFH.K=NTEXFH.K-NTEXFH.K*TEXFHOP*OP.K+(1-            15, A
  NTEXFH.K+NTEXFH.K*TEXFHOP*OP.K-$TEXFO.K)*TEXFHP*
  HP.K
    $TEXFH - % TEENS OF ED-"X" FAMILIES COMPLETING HS
               (PERCENT)
    NTEXFH - NORMAL % TEENS OF ED-"X" FAMILIES
               COMPLETING HS (PERCENT)
    OP     - OCCUPATIONAL EDUCATION PROGRAM FACTOR
               (DIMENSIONLESS)
    $TEXFO - % TEENS OF ED-"X" FAMILIES COMPLETING OE
               (PERCENT)
    HP     - HIGH SCHOOL PROGRAM FACTOR (DIMENSIONLESS)

MEND
```

```
YCGFCG.K=TEXFCG(YCGFBA.K,NYCGFH.K,NYCGFO.K,          11, A
  NYCGFHE.K,NYCGFOE.K,NYCGFEC.K,YCGFSC.K,YCGFOG.K,
  YCGFHG.K,YCGFHO.K,YCGFCP,YCGFEOP,YCGFEHP,YCGFDOP,
  YCGFHOP,YCGFHP)
    YCGFCG - MALE YOUTH OF CG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    YCGFBA - MALE YOUTH OF CG FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NYCGFH - NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING HS (PERCENT)
    NYCGFO - NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING OE (PERCENT)
    NYCGFHE- NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NYCGFOE- NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NYCGFEC- NORMAL % MALE YOUTH OF CG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    YCGFSC - MALE YOUTH OF CG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YCGFOG - MALE YOUTH OF CG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YCGFHG - MALE YOUTH OF CG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YCGFHO - MALE YOUTH OF CG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    YCGFCP - MALE YOUTH OF CG FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    YCGFEOP- MALE YOUTH OF CG FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    YCGFEHP- MALE YOUTH OF CG FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    YCGFDOP- MALE YOUTH OF CG FAM DROPOUTS TO OE PROGRAM
             FACTOR (%)
    YCGFHOP- MALE YOUTH OF CG FAM HS TO OE PROGRAM
             FACTOR (%)
    YCGFHP - MALE YOUTH OF CG FAM DROPOUTS TO HS PROGRAM
             FACTOR (%)

NYCGFH.K=.9                                          12, A
    NYCGFH - NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING HS (PERCENT)

NYCGFO.K=.05                                         13, A
    NYCGFO - NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING OE (PERCENT)

NYCGFHE.K=.9                                         14, A
    NYCGFHE- NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NYCGFOE.K=.9                                         15, A
    NYCGFOE- NORMAL % MALE YOUTH OF CG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
```

```
NYCGFEC.K=.7                                                    16, A
    NYCGFEC- NORMAL % MALE YOUTH OF CG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)

YSCFCG.K=TEXFCG(YSCFBA.K,NYSCFH.K,NYSCFO.K,                     17, A
  NYSCFHE.K,NYSCFOE.K,NYSCFEC.K,YSCFSC.K,YSCFOG.K,
  YSCFHG.K,YSCFHO.K,YSCFCP,YSCFEOP,YSCFEHP,YSCFDOP,
  YSCFHOP,YSCFHP)
    YSCFCG - MALE YOUTH OF SC FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION** TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    YSCFBA - MALE YOUTH OF SC FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NYSCFH - NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING HS (PERCENT)
    NYSCFO - NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING OE (PERCENT)
    NYSCFHE- NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NYSCFOE- NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NYSCFEC- NORMAL % MALE YOUTH OF SC FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    YSCFSC - MALE YOUTH OF SC FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YSCFOG - MALE YOUTH OF SC FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YSCFHG - MALE YOUTH OF SC FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YSCFHO - MALE YOUTH OF SC FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    YSCFCP - MALE YOUTH OF SC FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    YSCFEOP- MALE YOUTH OF SC FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    YSCFEHP- MALE YOUTH OF SC FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    YSCFDOP- MALE YOUTH OF SC FAM DROPOUTS TO OE PROGRAM
             FACTOR (%)
    YSCFHOP- MALE YOUTH OF SC FAM HS TO OE PROGRAM
             FACTOR (%)
    YSCFHP - MALE YOUTH OF SC FAM DROPOUTS TO HS PROGRAM
             FACTOR (%)

NYSCFH.K=.85                                                    18, A
    NYSCFH - NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING HS (PERCENT)

NYSCFO.K=.05                                                    19, A
    NYSCFO - NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING OE (PERCENT)

NYSCFHE.K=.8                                                    20, A
    NYSCFHE- NORMAL % MALE YOUTH OF SC FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
```

```
NYSCFOE.K=.8                                                    21, A
    NYSCFOE- NORMAL % MALE YOUTH OF SC FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)

NYSCFEC.K=.6                                                    22, A
    NYSCFEC- NORMAL % MALE YOUTH OF SC FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)

YOGFCG.K=TEXFCG(YOGFBA.K,NYOGFH.K,NYOGFO.K,                     23, A
  NYOGFHE.K,NYOGFOE.K,NYOGFEC.K,YOGFSC.K,YOGFOG.K,
  YOGFHG.K,YOGFHO.K,YOGFCP,YOGFEOP,YOGFEHP,YOGFDOP,
  YOGFHOP,YOGFHP)
    YOGFCG - MALE YOUTH OF OG FAMILIES BECOMING CG
               ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
               FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    YOGFBA - MALE YOUTH OF OG FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
    NYOGFH - NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING HS (PERCENT)
    NYOGFO - NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING OE (PERCENT)
    NYOGFHE- NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING HS WHO ENROLL IN COL (%)
    NYOGFOE- NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)
    NYOGFEC- NORMAL % MALE YOUTH OF OG FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)
    YOGFSC - MALE YOUTH OF OG FAMILIES BECOMING SC
               ADULTS (PEOPLE/YR)
    YOGFOG - MALE YOUTH OF OG FAMILIES BECOMING OG
               ADULTS (PEOPLE/YR)
    YOGFHG - MALE YOUTH OF OG FAMILIES BECOMING HG
               ADULTS (PEOPLE/YR)
    YOGFHO - MALE YOUTH OF OG FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    YOGFCP - MALE YOUTH OF OG FAMILIES COLLEGE PROGRAM
               FACTOR (%)
    YOGFEOP- MALE YOUTH OF OG FAM ENROLL OF OE GRADS
               PROGRAM FACTOR (%)
    YOGFEHP- MALE YOUTH OF OG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    YOGFDOP- MALE YOUTH OF OG FAM DROPOUTS TO OE PROGRAM
               FACTOR (%)
    YOGFHOP- MALE YOUTH OF OG FAM HS TO OE PROGRAM
               FACTOR (%)
    YOGFHP - MALE YOUTH OF OG FAM DROPOUTS TO HS PROGRAM
               FACTOR (%)

NYOGFH.K=.7                                                     24, A
    NYOGFH - NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING HS (PERCENT)

NYOGFO.K=.15                                                    25, A
    NYOGFO - NORMAL % MALE YOUTH OF OG FAMILIES
               COMPLETING OE (PERCENT)
```

```
NYOGFHE.K=.55                                                    26, A
    NYOGFHE- NORMAL % MALE YOUTH OF OG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NYOGFOE.K=.55                                                    27, A
    NYOGFOE- NORMAL % MALE YOUTH OF OG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)

NYOGFEC.K=.55                                                    28, A
    NYOGFEC- NORMAL % MALE YOUTH OF OG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)

YHGFCG.K=TEXFCG(YHGFBA.K,NYHGFH.K,NYHGFO.K,                      29, A
  NYHGFHE.K,NYHGFOE.K,NYHGFEC.K,YHGFSC.K,YHGFOG.K,
  YHGFHG.K,YHGFHO.K,YHGFCP,YHGFEOP,YHGFEHP,YHGFDOP,
  YHGFHOP,YHGFHP)
    YHGFCG - MALE YOUTH OF HG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    YHGFBA - MALE YOUTH OF HG FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NYHGFH - NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING HS (PERCENT)
    NYHGFO - NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING OE (PERCENT)
    NYHGFHE- NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NYHGFOE- NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NYHGFEC- NORMAL % MALE YOUTH OF HG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    YHGFSC - MALE YOUTH OF HG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YHGFOG - MALE YOUTH OF HG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YHGFHG - MALE YOUTH OF HG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YHGFHO - MALE YOUTH OF HG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    YHGFCP - MALE YOUTH OF HG FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    YHGFEOP- MALE YOUTH OF HG FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    YHGFEHP- MALE YOUTH OF HG FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    YHGFDOP- MALE YOUTH OF HG FAM DROPOUTS TO OE PROGRAM
             FACTOR (%)
    YHGFHOP- MALE YOUTH OF HG FAM HS TO OE PROGRAM
             FACTOR (%)
    YHGFHP - MALE YOUTH OF HG FAM DROPOUTS TO HS PROGRAM
             FACTOR (%)

NYHGFH.K=.75                                                     30, A
    NYHGFH - NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING HS (PERCENT)
```

```
NYHGFO.K=.1                                                    31, A
    NYHGFO - NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING OE (PERCENT)

NYHGFHE.K=.55                                                  32, A
    NYHGFHE- NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NYHGFOE.K=.55                                                  33, A
    NYHGFOE- NORMAL % MALE YOUTH OF HG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)

NYHGFEC.K=.55                                                  34, A
    NYHGFEC- NORMAL % MALE YOUTH OF HG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)

YHOFCG.K=TEXFCG(YHOFBA.K,NYHOFH.K,NYHOFO.K,                    35, A
  NYHOFHE.K,NYHOFOE.K,NYHOFEC.K,YHOFSC.K,YHOFOG.K,
  YHOFHG.K,YHOFHO.K,YHOFCP,YHOFEOP,YHOFEHP,YHOFDOP,
  YHOFHOP,YHOFHP)
    YHOFCG - MALE YOUTH OF HO FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    YHOFBA - MALE YOUTH OF HO FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NYHOFH - NORMAL % MALE YOUTH OF HO FAMILIES
             COMPLETING HS (PERCENT)
    NYHOFO - NORMAL % MALE YOUTH OF HO FAMILIES
             COMPLETING OE (PERCENT)
    NYHOFHE- NORMAL % MALE YOUTH OF HO FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NYHOFOE- NORMAL % MALE YOUTH OF HO FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NYHOFEC- NORMAL % MALE YOUTH OF HO FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    YHOFSC - MALE YOUTH OF HO FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YHOFOG - MALE YOUTH OF HO FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YHOFHG - MALE YOUTH OF HO FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YHOFHO - MALE YOUTH OF HO FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    YHOFCP - MALE YOUTH OF HO FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    YHOFEOP- MALE YOUTH OF HO FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    YHOFEHP- MALE YOUTH OF HO FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    YHOFDOP- MALE YOUTH OF HO FAM DROPOUTS TO OE PROGRAM
             FACTOR (%)
    YHOFHOP- MALE YOUTH OF HO FAM HS TO OE PROGRAM
             FACTOR (%)
    YHOFHP - MALE YOUTH OF HO FAM DROPOUTS TO HS PROGRAM
             FACTOR (%)
```

PAGE 24 FILE 02 MALE DEMOGRAPHIC SECTOR 8/08/73

NYHOFH.K=.55 36, A
NYHOFH - NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING HS (PERCENT)

NYHOFO.K=.1 37, A
NYHOFO - NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING OE (PERCENT)

NYHOFHE.K=.4 38, A
NYHOFHE- NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING HS WHO ENROLL IN COL (%)

NYHOFOE.K=.4 39, A
NYHOFOE- NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING OE WHO ENROLL IN COL (%)

NYHOFEC.K=.6 40, A
NYHOFEC- NORMAL % MALE YOUTH OF HO FAMILIES ENROLLING IN COL WHO GRADUATE (%)

```
VCGFCG.K=TEXFCG(VCGFBA.K,NVCGFH.K,NVCGFO.K,                    65, A
  NVCGFHE.K,NVCGFOE.K,NVCGFEC.K,VCGFSC.K,VCGFOG.K,
  VCGFHG.K,VCGFHO.K,VCGFCP,VCGFEOP,VCGFEHP,VCGFDOP,
  VCGFHOP,VCGFHP)
    VCGFCG - FEMALE YOUTH OF CG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    VCGFBA - FEMALE YOUTH OF CG FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NVCGFH - NORMAL % FEMALE YOUTH OF CG FAMILIES
             COMPLETING HS (PERCENT)
    NVCGFO - NORMAL % FEMALE YOUTH OF CG FAMILIES
             COMPLETING OE (PERCENT)
    NVCGFHE- NORMAL % FEM YOUTH OF CG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NVCGFOE- NORMAL % FEM YOUTH OF CG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NVCGFEC- NORMAL % FEMALE YOUTH OF CG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    VCGFSC - FEMALE YOUTH OF CG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VCGFOG - FEMALE YOUTH OF CG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    VCGFHG - FEMALE YOUTH OF CG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    VCGFHO - FEMALE YOUTH OF CG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VCGFCP - FEMALE YOUTH OF CG FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    VCGFEOP- FEMALE YOUTH OF CG FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    VCGFEHP- FEMALE YOUTH OF CG FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    VCGFDOP- FEMALE YOUTH OF CG FAM DROPOUTS TO OE
             PROGRAM FACTOR (%)
    VCGFHOP- FEMALE YOUTH OF CG FAM HS TO OE PROGRAM
             FACTOR (%)
    VCGFHP - FEMALE YOUTH OF CG FAM DROPOUTS TO HS
             PROGRAM FACTOR (%)

NVCGFH.K=.9                                                    66, A
    NVCGFH - NORMAL % FEMALE YOUTH OF CG FAMILIES
             COMPLETING HS (PERCENT)

NVCGFO.K=.05                                                   67, A
    NVCGFO - NORMAL % FEMALE YOUTH OF CG FAMILIES
             COMPLETING OE (PERCENT)

NVCGFHE.K=.9                                                   68, A
    NVCGFHE- NORMAL % FEM YOUTH OF CG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NVCGFOE.K=.9                                                   69, A
    NVCGFOE- NORMAL % FEM YOUTH OF CG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
```

```
NVCGFEC.K=.7                                                    70, A
    NVCGFEC- NORMAL % FEMALE YOUTH OF CG FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)

VSCFCG.K=TEXFCG(VSCFBA.K,NVSCFH.K,NVSCFO.K,                     71, A
  NVSCFHE.K,NVSCFOE.K,NVSCFEC.K,VSCFSC.K,VSCFOG.K,
  VSCFHG.K,VSCFHO.K,VSCFCP,VSCFEOP,VSCFEHP,VSCFDOP,
  VSCFHOP,VSCFHP)
    VSCFCG --FEMALE YOUTH OF SC FAMILIES BECOMING CG
               ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
               FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    VSCFBA - FEMALE YOUTH OF SC FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
    NVSCFH - NORMAL % FEMALE YOUTH OF SC FAMILIES
               COMPLETING HS (PERCENT)
    NVSCFO - NORMAL % FEMALE YOUTH OF SC FAMILIES
               COMPLETING OE (PERCENT)
    NVSCFHE- NORMAL % FEM YOUTH OF SC FAMILIES
               COMPLETING HS WHO ENROLL IN COL (%)
    NVSCFOE- NORMAL % FEM YOUTH OF SC FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)
    NVSCFEC- NORMAL % FEMALE YOUTH OF SC FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)
    VSCFSC - FEMALE YOUTH OF SC FAMILIES BECOMING SC
               ADULTS (PEOPLE/YR)
    VSCFOG - FEMALE YOUTH OF SC FAMILIES BECOMING OG
               ADULTS (PEOPLE/YR)
    VSCFHG - FEMALE YOUTH OF SC FAMILIES BECOMING HG
               ADULTS (PEOPLE/YR)
    VSCFHO - FEMALE YOUTH OF SC FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    VSCFCP - FEMALE YOUTH OF SC FAMILIES COLLEGE PROGRAM
               FACTOR (%)
    VSCFEOP- FEMALE YOUTH OF SC FAM ENROLL OF OE GRADS
               PROGRAM FACTOR (%)
    VSCFEHP- FEMALE YOUTH OF SC FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VSCFDOP- FEMALE YOUTH OF SC FAM DROPOUTS TO OE
               PROGRAM FACTOR (%)
    VSCFHOP- FEMALE YOUTH OF SC FAM HS TO OE PROGRAM
               FACTOR (%)
    VSCFHP - FEMALE YOUTH OF SC FAM DROPOUTS TO HS
               PROGRAM FACTOR (%)

NVSCFH.K=.85                                                    72, A
    NVSCFH - NORMAL % FEMALE YOUTH OF SC FAMILIES
               COMPLETING HS (PERCENT)

NVSCFO.K=.05                                                    73, A
    NVSCFO - NORMAL % FEMALE YOUTH OF SC FAMILIES
               COMPLETING OE (PERCENT)

NVSCFHE.K=.8                                                    74, A
    NVSCFHE- NORMAL % FEM YOUTH OF SC FAMILIES
               COMPLETING HS WHO ENROLL IN COL (%)
```

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NVSCFOE.K=.8                                                    75, A
    NVSCFOE- NORMAL % FEM YOUTH OF SC FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)

NVSCFEC.K=.6                                                    76, A
    NVSCFEC- NORMAL % FEMALE YOUTH OF SC FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)

VOGFCG.K=TEXFCG(VOGFBA.K,NVOGFH.K,NVOGFO.K,                     77, A
  NVOGFHE.K,NVOGFOE.K,NVOGFEC.K,VOGFSC.K,VOGFOG.K,
  VOGFHG.K,VOGFHO.K,VOGFCP,VOGFEOP,VOGFEHP,VOGFDOP,
  VOGFHOP,VOGFHP)
    VOGFCG - FEMALE YOUTH OF OG FAMILIES BECOMING CG
               ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
               FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    VOGFBA - FEMALE YOUTH OF OG FAMILIES BECOMING ADULTS
               (PEOPLE/YR)
    NVOGFH - NORMAL % FEMALE YOUTH OF OG FAMILIES
               COMPLETING HS (PERCENT)
    NVOGFO - NORMAL % FEMALE YOUTH OF OG FAMILIES
               COMPLETING OE (PERCENT)
    NVOGFHE- NORMAL % FEM YOUTH OF OG FAMILIES
               COMPLETING HS WHO ENROLL IN COL (%)
    NVOGFOE- NORMAL % FEM YOUTH OF OG FAMILIES
               COMPLETING OE WHO ENROLL IN COL (%)
    NVOGFEC- NORMAL % FEMALE YOUTH OF OG FAMILIES
               ENROLLING IN COL WHO GRADUATE (%)
    VOGFSC - FEMALE YOUTH OF OG FAMILIES BECOMING SC
               ADULTS (PEOPLE/YR)
    VOGFOG - FEMALE YOUTH OF OG FAMILIES BECOMING OG
               ADULTS (PEOPLE/YR)
    VOGFHG - FEMALE YOUTH OF OG FAMILIES BECOMING HG
               ADULTS (PEOPLE/YR)
    VOGFHO - FEMALE YOUTH OF OG FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    VOGFCP - FEMALE YOUTH OF OG FAMILIES COLLEGE PROGRAM
               FACTOR (%)
    VOGFEOP- FEMALE YOUTH OF OG FAM ENROLL OF OE GRADS
               PROGRAM FACTOR (%)
    VOGFEHP- FEMALE YOUTH OF OG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VOGFDOP- FEMALE YOUTH OF OG FAM DROPOUTS TO OE
               PROGRAM FACTOR (%)
    VOGFHOP- FEMALE YOUTH OF OG FAM HS TO OE PROGRAM
               FACTOR (%)
    VOGFHP - FEMALE YOUTH OF OG FAM DROPOUTS TO HS
               PROGRAM FACTOR (%)

NVOGFH.K=.7                                                     78, A
    NVOGFH - NORMAL % FEMALE YOUTH OF OG FAMILIES
               COMPLETING HS (PERCENT)

NVOGFO.K=.15                                                    79, A
    NVOGFO - NORMAL % FEMALE YOUTH OF OG FAMILIES
               COMPLETING OE (PERCENT)
```

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NVOGFHE.K=.55                                                    80, A
    NVOGFHE- NORMAL % FEM YOUTH OF OG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NVOGFOE.K=.55                                                    81, A
    NVOGFOE- NORMAL % FEM YOUTH OF OG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)

NVOGFEC.K=.55                                                    82, A
    NVOGFEC- NORMAL % FEMALE YOUTH OF OG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)

VHGFCG.K=TEXFCG(VHGFBA.K,NVHGFH.K,NVHGFO.K,                      83, A
  NVHGFHE.K,NVHGFOE.K,NVHGFEC.K,VHGFSC.K,VHGFOG.K,
  VHGFHG.K,VHGFHO.K,VHGFCP,VHGFEOP,VHGFEHP,VHGFDOP,
  VHGFHOP,VHGFHP)
    VHGFCG - FEMALE YOUTH OF HG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    VHGFBA - FEMALE YOUTH OF HG FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NVHGFH - NORMAL % FEMALE YOUTH OF HG FAMILIES
             COMPLETING HS (PERCENT)
    NVHGFO - NORMAL % FEMALE YOUTH OF HG FAMILIES
             COMPLETING OE (PERCENT)
    NVHGFHE- NORMAL % FEM YOUTH OF HG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NVHGFOE- NORMAL % FEM YOUTH OF HG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NVHGFEC- NORMAL % FEMALE YOUTH OF HG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    VHGFSC - FEMALE YOUTH OF HG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VHGFOG - FEMALE YOUTH OF HG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    VHGFHG - FEMALE YOUTH OF HG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    VHGFHO - FEMALE YOUTH OF HG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VHGFCP - FEMALE YOUTH OF HG FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    VHGFEOP- FEMALE YOUTH OF HG FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    VHGFEHP- FEMALE YOUTH OF HG FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    VHGFDOP- FEMALE YOUTH OF HG FAM DROPOUTS TO OE
             PROGRAM FACTOR (%)
    VHGFHOP- FEMALE YOUTH OF HG FAM HS TO OE PROGRAM
             FACTOR (%)
    VHGFHP - FEMALE YOUTH OF HG FAM DROPOUTS TO HS
             PROGRAM FACTOR (%)

NVHGFH.K=.75                                                     84, A
    NVHGFH - NORMAL % FEMALE YOUTH OF HG FAMILIES
             COMPLETING HS (PERCENT)
```

```
NVHGFO.K=.1                                                    85, A
    NVHGFO - NORMAL % FEMALE YOUTH OF HG FAMILIES
             COMPLETING OE (PERCENT)

NVHGFHE.K=.55                                                  86, A
    NVHGFHE- NORMAL % FEM YOUTH OF HG FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)

NVHGFOE.K=.55                                                  87, A
    NVHGFOE- NORMAL % FEM YOUTH OF HG FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)

NVHGFEC.K=.55                                                  88, A
    NVHGFEC- NORMAL % FEMALE YOUTH OF HG FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)

VHOFCG.K=TEXFCG(VHOFBA.K,NVHOFH.K,NVHOFO.K,                    89, A
  NVHOFHE.K,NVHOFOE.K,NVHOFEC.K,VHOFSC.K,VHOFOG.K,
  VHOFHG.K,VHOFHO.K,VHOFCP,VHOFEOP,VHOFEHP,VHOFDOP,
  VHOFHOP,VHOFHP)
    VHOFCG - FEMALE YOUTH OF HO FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    TEXFCG - **MACRO FUNCTION**  TEENS OF ED-"X"
             FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
    VHOFBA - FEMALE YOUTH OF HO FAMILIES BECOMING ADULTS
             (PEOPLE/YR)
    NVHOFH - NORMAL % FEMALE YOUTH OF HO FAMILIES
             COMPLETING HS (PERCENT)
    NVHOFO - NORMAL % FEMALE YOUTH OF HO FAMILIES
             COMPLETING OE (PERCENT)
    NVHOFHE- NORMAL % FEM YOUTH OF HO FAMILIES
             COMPLETING HS WHO ENROLL IN COL (%)
    NVHOFOE- NORMAL % FEM YOUTH OF HO FAMILIES
             COMPLETING OE WHO ENROLL IN COL (%)
    NVHOFEC- NORMAL % FEMALE YOUTH OF HO FAMILIES
             ENROLLING IN COL WHO GRADUATE (%)
    VHOFSC - FEMALE YOUTH OF HO FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VHOFOG - FEMALE YOUTH OF HO FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    VHOFHG - FEMALE YOUTH OF HO FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    VHOFHO - FEMALE YOUTH OF HO FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VHOFCP - FEMALE YOUTH OF HO FAMILIES COLLEGE PROGRAM
             FACTOR (%)
    VHOFEOP- FEMALE YOUTH OF HO FAM ENROLL OF OE GRADS
             PROGRAM FACTOR (%)
    VHOFEHP- FEMALE YOUTH OF HO FAM ENROLL OF HS GRADS
             PROGRAM FACTOR (%)
    VHOFDOP- FEMALE YOUTH OF HO FAM DROPOUTS TO OE
             PROGRAM FACTOR (%)
    VHOFHOP- FEMALE YOUTH OF HO FAM HS TO OE PROGRAM
             FACTOR (%)
    VHOFHP - FEMALE YOUTH OF HO FAM DROPOUTS TO HS
             PROGRAM FACTOR (%)
```

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NVHOFH.K=.55 90, A
NVHOFH - NORMAL % FEMALE YOUTH OF HO FAMILIES
COMPLETING HS (PERCENT)

NVHOFO.K=.1 91, A
NVHOFO - NORMAL % FEMALE YOUTH OF HO FAMILIES
COMPLETING OE (PERCENT)

NVHOFHE.K=.4 92, A
NVHOFHE- NORMAL % FEM YOUTH OF HO FAMILIES
COMPLETING HS WHO ENROLL IN COL (%)

NVHOFOE.K=.4 93, A
NVHOFOE- NORMAL % FEM YOUTH OF HO FAMILIES
COMPLETING OE WHO ENROLL IN COL (%)

NVHOFEC.K=.6 94, A
NVHOFEC- NORMAL % FEMALE YOUTH OF HO FAMILIES
ENROLLING IN COL WHO GRADUATE (%)

```
CP.K=CLIP(0,1,SWTCP,TIME.K)                                    206, A
SWTCP=2000                                                     206.1, C
YCGFCP=.3                                                      206.2, C
YSCFCP=.3                                                      206.3, C
YOGFCP=.3                                                      206.4, C
YHGFCP=.3                                                      206.5, C
YHOFCP=.3                                                      206.6, C
VCGFCP=.3                                                      206.7, C
VSCFCP=.3                                                      206.8, C
VOGFCP=.3                                                      206.9, C
    CP      - COLLEGE PROGRAM FACTOR (DIMENSIONLESS)
    CLIP    - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
              CHANGE PARAMETER VALUE
    SWTCP   - SWITCH TIME FOR COLLEGE PROGRAM (YEARS)
    TIME    - CALENDAR TIME (YEARS)
    YCGFCP  - MALE YOUTH OF CG FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    YSCFCP  - MALE YOUTH OF SC FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    YOGFCP  - MALE YOUTH OF OG FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    YHGFCP  - MALE YOUTH OF HG FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    YHOFCP  - MALE YOUTH OF HO FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    VCGFCP  - FEMALE YOUTH OF CG FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    VSCFCP  - FEMALE YOUTH OF SC FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    VOGFCP  - FEMALE YOUTH OF OG FAMILIES COLLEGE PROGRAM
              FACTOR (%)

VHGFCP=.3                                                      207, C
VHOFCP=.3                                                      207.1, C
    VHGFCP  - FEMALE YOUTH OF HG FAMILIES COLLEGE PROGRAM
              FACTOR (%)
    VHOFCP  - FEMALE YOUTH OF HO FAMILIES COLLEGE PROGRAM
              FACTOR (%)
```

```
EP.K=CLIP(0,1,SWTEP,TIME.K)                                    208, A
SWTEP=2000                                                     208.1, C
YCGFEOP=.3                                                     208.2, C
YSCFEOP=.3                                                     208.3, C
YOGFEOP=.3                                                     208.4, C
YHGFEOP=.3                                                     208.5, C
YHOFEOP=.3                                                     208.6, C
VCGFEOP=.3                                                     208.7, C
VSCFEOP=.3                                                     208.8, C
VOGFEOP=.3                                                     208.9, C
```

EP - COLLEGE ENROLLMENT PROGRAM FACTOR (DIMENSIONLESS)

CLIP - LOGICAL FUNCTION, USED AS A TIME SWITCH TO CHANGE PARAMETER VALUE

SWTEP - SWITCH TIME FOR COLLEGE ENROLLMENT PROGRAM (YEARS)

TIME - CALENDAR TIME (YEARS)

YCGFEOP- MALE YOUTH OF CG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

YSCFEOP- MALE YOUTH OF SC FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

YOGFEOP- MALE YOUTH OF OG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

YHGFEOP- MALE YOUTH OF HG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

YHOFEOP- MALE YOUTH OF HO FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

VCGFEOP- FEMALE YOUTH OF CG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

VSCFEOP- FEMALE YOUTH OF SC FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

VOGFEOP- FEMALE YOUTH OF OG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

```
VHGFEOP=.3                                                    209, C
VHOFEOP=.3                                                    209.1, C
YCGFEHP=.3                                                    209.2, C
YSCFEHP=.3                                                    209.3, C
YOGFEHP=.3                                                    209.4, C
YHGFEHP=.3                                                    209.5, C
YHOFEHP=.3                                                    209.6, C
VCGFEHP=.3                                                    209.7, C
VSCFEHP=.3                                                    209.8, C
VOGFEHP=.3                                                    209.9, C
    VHGFEOP- FEMALE YOUTH OF HG FAM ENROLL OF OE GRADS
               PROGRAM FACTOR (%)
    VHOFEOP- FEMALE YOUTH OF HO FAM ENROLL OF OE GRADS
               PROGRAM FACTOR (%)
    YCGFEHP- MALE YOUTH OF CG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    YSCFEHP- MALE YOUTH OF SC FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    YOGFEHP- MALE YOUTH OF OG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    YHGFEHP- MALE YOUTH OF HG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    YHOFEHP- MALE YOUTH OF HO FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VCGFEHP- FEMALE YOUTH OF CG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VSCFEHP- FEMALE YOUTH OF SC FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VOGFEHP- FEMALE YOUTH OF OG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)

VHGFEHP=.3                                                    210, C
VHOFEHP=.3                                                    210.1, C
    VHGFEHP- FEMALE YOUTH OF HG FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
    VHOFEHP- FEMALE YOUTH OF HO FAM ENROLL OF HS GRADS
               PROGRAM FACTOR (%)
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OP.K=CLIP(0,1,SWTOP,TIME,K)                                    211, A
SWTOP=2000                                                     211.1, C
YCGFDOP=.3                                                     211.2, C
YSCFDOP=.3                                                     211.3, C
YOGFDOP=.3                                                     211.4, C
YHGFDOP=.3                                                     211.5, C
YHOFDOP=.3                                                     211.6, C
VCGFDOP=.3                                                     211.7, C
VSCFDOP=.3                                                     211.8, C
VOGFDOP=.3                                                     211.9, C
```

OP - OCCUPATIONAL EDUCATION PROGRAM FACTOR (DIMENSIONLESS)

CLIP - LOGICAL FUNCTION, USED AS A TIME SWITCH TO CHANGE PARAMETER VALUE

SWTOP - SWITCH TIME FOR OCCUPATIONAL EDUCATION PROGRAM (YEARS)

TIME - CALENDAR TIME (YEARS)

YCGFDOP- MALE YOUTH OF CG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

YSCFDOP- MALE YOUTH OF SC FAM DROPOUTS TO OE PROGRAM FACTOR (%)

YOGFDOP- MALE YOUTH OF OG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

YHGFDOP- MALE YOUTH OF HG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

YHOFDOP- MALE YOUTH OF HO FAM DROPOUTS TO OE PROGRAM FACTOR (%)

VCGFDOP- FEMALE YOUTH OF CG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

VSCFDOP- FEMALE YOUTH OF SC FAM DROPOUTS TO OE PROGRAM FACTOR (%)

VOGFDOP- FEMALE YOUTH OF OG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

```
VHGFDOP=.3                                                    212, C
VHOFDOP=.3                                                    212.1, C
YCGFHOP=.3                                                    212.2, C
YSCFHOP=.3                                                    212.3, C
YOGFHOP=.3                                                    212.4, C
YHGFHOP=.3                                                    212.5, C
YHOFHOP=.3                                                    212.6, C
VCGFHOP=.3                                                    212.7, C
VSCFHOP=.3                                                    212.8, C
VOGFHOP=.3                                                    212.9, C
    VHGFDOP- FEMALE YOUTH OF HG FAM DROPOUTS TO OE
             PROGRAM FACTOR (%)
    VHOFDOP- FEMALE YOUTH OF HO FAM DROPOUTS TO OE
             PROGRAM FACTOR (%)
    YCGFHOP- MALE YOUTH OF CG FAM HS TO OE PROGRAM
             FACTOR (%)
    YSCFHOP- MALE YOUTH OF SC FAM HS TO OE PROGRAM
             FACTOR (%)
    YOGFHOP- MALE YOUTH OF OG FAM HS TO OE PROGRAM
             FACTOR (%)
    YHGFHOP- MALE YOUTH OF HG FAM HS TO OE PROGRAM
             FACTOR (%)
    YHOFHOP- MALE YOUTH OF HO FAM HS TO OE PROGRAM
             FACTOR (%)
    VCGFHOP- FEMALE YOUTH OF CG FAM HS TO OE PROGRAM
             FACTOR (%)
    VSCFHOP- FEMALE YOUTH OF SC FAM HS TO OE PROGRAM
             FACTOR (%)
    VOGFHOP- FEMALE YOUTH OF OG FAM HS TO OE PROGRAM
             FACTOR (%)

VHGFHOP=.3                                                    213, C
VHOFHOP=.3                                                    213.1, C
    VHGFHOP- FEMALE YOUTH OF HG FAM HS TO OE PROGRAM
             FACTOR (%)
    VHOFHOP- FEMALE YOUTH OF HO FAM HS TO OE PROGRAM
             FACTOR (%)
```

```
HP.K=CLIP(0,1,SWTHP,TIME.K)                                    214, A
SWTHP=2000                                                     214.1, C
YCGFHP=.3                                                      214.2, C
YSCFHP=.3                                                      214.3, C
YOGFHP=.3                                                      214.4, C
YHGFHP=.3                                                      214.5, C
YHOFHP=.3                                                      214.6, C
VCGFHP=.3                                                      214.7, C
VSCFHP=.3                                                      214.8, C
VOGFHP=.3                                                      214.9, C
    HP      - HIGH SCHOOL PROGRAM FACTOR (DIMENSIONLESS)
    CLIP    - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
              CHANGE PARAMETER VALUE
    SWTHP   - SWITCH TIME FOR HIGH SCHOOL PROGRAM (YEARS)
    TIME    - CALENDAR TIME (YEARS)
    YCGFHP  - MALE YOUTH OF CG FAM DROPOUTS TO HS PROGRAM
              FACTOR (%)
    YSCFHP  - MALE YOUTH OF SC FAM DROPOUTS TO HS PROGRAM
              FACTOR (%)
    YOGFHP  - MALE YOUTH OF OG FAM DROPOUTS TO HS PROGRAM
              FACTOR (%)
    YHGFHP  - MALE YOUTH OF HG FAM DROPOUTS TO HS PROGRAM
              FACTOR (%)
    YHOFHP  - MALE YOUTH OF HO FAM DROPOUTS TO HS PROGRAM
              FACTOR (%)
    VCGFHP  - FEMALE YOUTH OF CG FAM DROPOUTS TO HS
              PROGRAM FACTOR (%)
    VSCFHP  - FEMALE YOUTH OF SC FAM DROPOUTS TO HS
              PROGRAM FACTOR (%)
    VOGFHP  - FEMALE YOUTH OF OG FAM DROPOUTS TO HS
              PROGRAM FACTOR (%)

VHGFHP=.3                                                      215, C
VHOFHP=.3                                                      215.1, C
    VHGFHP  - FEMALE YOUTH OF HG FAM DROPOUTS TO HS
              PROGRAM FACTOR (%)
    VHOFHP  - FEMALE YOUTH OF HO FAM DROPOUTS TO HS
              PROGRAM FACTOR (%)
```

will enroll in college; and the probability a teen enrolled in college will graduate. These probabilities (with the exception of those concerning occupational education) were obtained from the Current Population Survey, Educational Change in a Generation, March, 1962.[1] From the survey, it is possible to compute 1962 attainment probabilities for men age 25-34, 35-44, 45-54, and 55-64, for each parent education group. This is nearly equivalent to computing probabilities for men age 25-34 in 1962, 1952, 1942, and 1932, since most people have completed their education by age 25. These data indicate that almost all attainment probabilities have risen since 1932 for almost all parent education groups. In the model, the data for men age 25-34 in 1962 are used for the entire period 1960 - 2000. This is clearly a simplification which is not altogether correct; certainly some of these probabilities will continue to rise in the future. However, the simplification eases analysis of model behavior, and the addition of time-varying probabilities is a straightforward procedure which can be carried out in the future to increase model accuracy.

Unfortunately, the ECG data pertain only to men, and no similar study is available for women. Other information indicates that the conditional probabilities for women are roughly equal to those for men, although the probabilities of completing high school are somewhat higher for women, and the probabilities of completing college are somewhat higher for men. In the present model, the parameters for men and women are identical.

Several experimental policy parameters permit testing the effects of hypothetical school programs which increase the educational attainment of children. These parameters increase the normal conditional probabilities

[1] Series P-20, No. 132, September 22, 1964.

for high school or occupational education school graduation, college enrollment, or college graduation. Each parameter represents the percentage effectiveness of the experimental program for teenagers normally failing to reach a particular level of attainment. For example, if the normal probability that a male youth from a high school dropout family will complete occupational education is .1 (i.e., 10 per cent complete occupational education), and the occupational education experimental program parameter is set equal to 50 per cent, then the probability that such a youth will complete occupational education school under the experimental program is the normal .1 plus 50 per cent of the normal probability of .9 that such a youth will not complete occupational education. The resulting probability is .55 (i.e., under the experimental program, 55 per cent complete occupational education).

The macro EXA (education-"x" adults) describes the aging and migration of adults and aging adults. A flow diagram (Figure 4-4) indicates the structure of the macro. The macro appears ten times in the model, once each for men and women in each educational attainment group.

Family Sector

In the model, birth rates and the educational attainment of children depend on the educational attainment of heads-of-families. The family sector of the model was originally included to describe the assortative mating process. In the present version of the model, it is simply assumed that the education distribution of heads-of-families is identical to the education distribution of adult men. This simplification is not important unless the present high correlation of husband and wife education declines considerably in the future.[1]

[1]Or unless new family forms such as group marriage become widely popular!

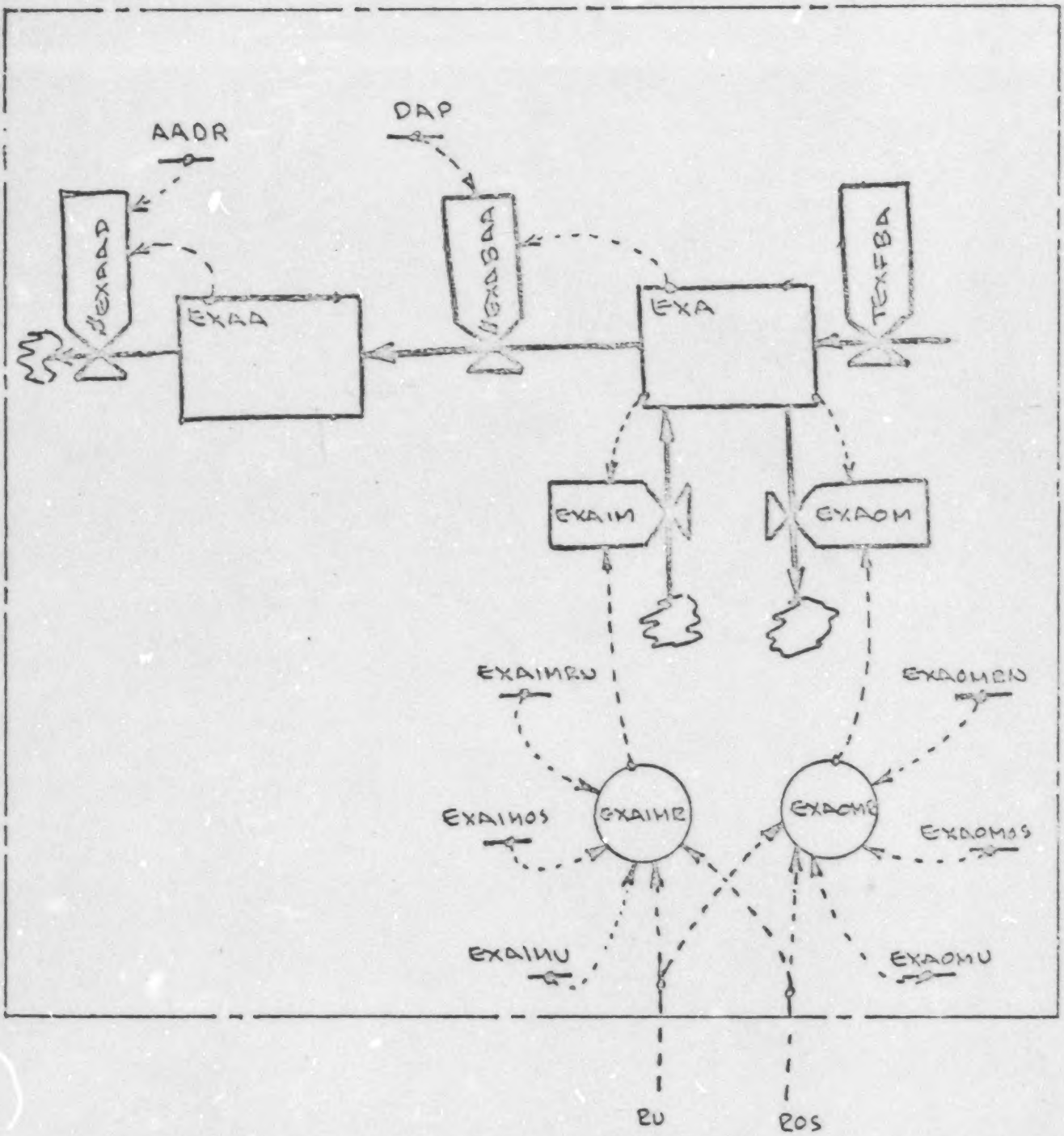

Figure 4-4 Demographic Sector -- EXA macro function

```
MACRO EXA(EXAN,EXAIM,EXAIMRN,EXAIMOS,EXAIMU,EXAOM,
  EXAOMRN,EXAOMOS,EXAOMU,EXALS,EXAA,EXAAN)

EXA.K=EXA.J+(DT)(EXAIM.J-EXAOM.J+EXALS.J-SEXABAA.J) 1, L
EXA=EXAN                                            1.1, N
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    EXAIM   - ED-"X" ADULTS IN-MIGRATION (PEOPLE/YR)
    EXAOM   - ED-"X" ADULTS OUT-MIGRATION (PEOPLE/YR)
    EXALS   - ED-"X" ADULTS LEAVING SCHOOL (PEOPLE/YR)
    $EXABAA- ED-"X" ADULTS BECOMING AGING ADULTS
               (PEOPLE/YR)
    EXAN    - ED-"X" ADULTS INITIAL (PEOPLE)

EXAIM.K=EXA.K*$EXAIMR.K                             2, A
    EXAIM   - ED-"X" ADULTS IN-MIGRATION (PEOPLE/YR)
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    $EXAIMR- ED-"X" ADULTS IN-MIGRATION RATE (PERCENT/
               YR)

$EXAIMR.K=EXAIMRN+EXAIMOS*1.44*LOGN(ROS.K)-         3, A
  EXAIMU*1.44*LOGN(RU.K)
    $EXAIMR- ED-"X" ADULTS IN-MIGRATION RATE (PERCENT/
               YR)
    EXAIMRN- ED-"X" ADULTS IN-MIG RATE NORMAL (PERCENT/
               YR)
    EXAIMOS- ED-"X" ADULTS IN-MIG DUE TO OCC STATUS
               (PERCENT/YR)
    ROS     - RELATIVE OCCUPATIONAL STATUS
               (DIMENSIONLESS)
    EXAIMU  - ED-"X" ADULTS IN-MIG DUE TO UNEM (PERCENT/
               YR)
    RU      - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)

EXAOM.K=EXA.K*$EXAOMR.K                             4, A
    EXAOM   - ED-"X" ADULTS OUT-MIGRATION (PEOPLE/YR)
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    $EXAOMR- ED-"X" ADULTS OUT-MIGRATION RATE (PERCENT/
               YR)

$EXAOMR.K=EXAOMRN-EXAOMOS*1.44*LOGN(ROS.K)+          5, A
  EXAOMU*1.44*LOGN(RU.K)
    $EXAOMR- ED-"X" ADULTS OUT-MIGRATION RATE (PERCENT/
               YR)
    EXAOMRN- ED-"X" ADULTS OUT-MIG RATE NORMAL (PERCENT/
               YR)
    EXAOMOS- ED-"X" ADULTS OUT-MIG DUE TO OCC STATUS
               (PERCENT/YR)
    ROS     - RELATIVE OCCUPATIONAL STATUS
               (DIMENSIONLESS)
    EXAOMU  - ED-"X" ADULTS OUT-MIG DUE TO UNEM (PERCENT/
               YR)
    RU      - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)
```

```
$EXABAA.K=EXA.K/DAP                                          6, A
    $EXABAA- ED-"X" ADULTS BECOMING AGING ADULTS
               (PEOPLE/YR)
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    DAP     - DURATION OF THE ADULT PERIOD (YEARS)


EXAA.K=EXAA.J+(DT)(SEXABAA.J-SEXAAD.J)                       7, L
EXAA=EXAAN                                                   7.1, N
    EXAA    - ED-"X" AGING ADULTS (PEOPLE)
    $EXABAA- ED-"X" ADULTS BECOMING AGING ADULTS
               (PEOPLE/YR)
    SEXAAD  - ED-"X" AGING ADULT DEATHS
    EXAAN   - ED-"X" AGING ADULTS INITIAL (PEOPLE)

$EXAAD.K=EXAA.K*AADR                                         8, A
    $EXAAD  - ED-"X" AGING ADULT DEATHS
    EXAA    - ED-"X" AGING ADULTS (PEOPLE)
    AADR    - AGING ADULT DEATH RATE (PERCENT/YEAR)

MEND

                                                             .1, C
DAP=45                                                       .2, C
AADR=.1
    DAP     - DURATION OF THE ADULT PERIOD (YEARS)
    AADR    - AGING ADULT DEATH RATE (PERCENT/YEAR)
```

```
CGM.K=EXA(CGMN,CGMIM.K,CGMIMRN,CGMIMOS,CGMIMU,          41, A
  CGMOM.K,CGMOMRN,CGMOMOS,CGMOMU,CGMLS.K,CGAM.K,
  CGAMN)
CGMN=126000                                             41.2, C
CGMIMRN=.006                                            41.3, C
CGMIMOS=.03                                             41.4, C
CGMIMU=.005                                             41.5, C
CGMOMRN=.009                                            41.6, C
CGMOMOS=.03                                             41.7, C
CGMOMU=.005                                             41.8, C
CGAMN=27000                                             41.9, C
```

CGM - CG MEN (PEOPLE)
EXA - **MACRO FUNCTION** ED-"X" ADULTS (PEOPLE)
CGMN - CG MEN INITIAL (PEOPLE)
CGMIM - CG MEN IN-MIGRATION (PEOPLE/YR)
CGMIMRN- CG MEN IN-MIG RATE NORMAL (PERCENT/YR)
CGMIMOS- CG MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
CGMIMU - CG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
CGMOM - CG MEN OUT-MIGRATION (PEOPLE/YR)
CGMOMRN- CG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
CGMOMOS- CG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
CGMOMU - CG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
CGMLS - CG MEN LEAVING SCHOOL (PEOPLE/YR)
CGAM - CG AGING MEN (PEOPLE)
CGAMN - CG AGING MEN INITIAL (PEOPLE)

```
CGMLS.K=YCGFCG.K+YSCFCG.K+YOGFCG.K+YHGFCG.K+          42, A
  YHOFCG.K
    CGMLS  - CG MEN LEAVING SCHOOL (PEOPLE/YR)
    YCGFCG - MALE YOUTH OF CG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    YSCFCG - MALE YOUTH OF SC FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    YOGFCG - MALE YOUTH OF OG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    YHGFCG - MALE YOUTH OF HG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    YHOFCG - MALE YOUTH OF HO FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)

SCM.K=EXA(SCMN,SCMIM.K,SCMIMRN,SCMIMOS,SCMIMU,        43, A
  SCMOM.K,SCMOMRN,SCMOMOS,SCMOMU,SCMLS.K,SCAM.K,
  SCAMN)
SCMN=126000                                           43.2, C
SCMIMRN=.006                                          43.3, C
SCMIMOS=.025                                          43.4, C
SCMIMU=.006                                           43.5, C
SCMOMRN=.009                                          43.6, C
SCMOMOS=.025                                          43.7, C
SCMOMU=.006                                           43.8, C
SCAMN=27000                                           43.9, C
    SCM    - SC MEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    SCMN   - SC MEN INITIAL (PEOPLE)
    SCMIM  - SC MEN IN-MIGRATION (PEOPLE/YR)
    SCMIMRN- SC MEN IN-MIG RATE NORMAL (PERCENT/YR)
    SCMIMOS- SC MEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    SCMIMU - SC MEN IN-MIG DUE TO UNEM (PERCENT/YR)
    SCMOM  - SC MEN OUT-MIGRATION (PEOPLE/YR)
    SCMOMRN- SC MEN OUT-MIG RATE NORMAL (PERCENT/YR)
    SCMOMOS- SC MEN OUT-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    SCMOMU - SC MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    SCMLS  - SC MEN LEAVING SCHOOL (PEOPLE/YR)
    SCAM   - SC AGING MEN (PEOPLE)
    SCAMN  - SC AGING MEN INITIAL (PEOPLE)

SCMLS.K=YCGFSC.K+YSCFSC.K+YOGFSC.K+YHGFSC.K+          44, A
  YHOFSC.K
    SCMLS  - SC MEN LEAVING SCHOOL (PEOPLE/YR)
    YCGFSC - MALE YOUTH OF CG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YSCFSC - MALE YOUTH OF SC FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YOGFSC - MALE YOUTH OF OG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YHGFSC - MALE YOUTH OF HG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    YHOFSC - MALE YOUTH OF HO FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
```

```
OGM.K=EXA(OGMN,OGMIM.K,OGMIMRN,OGMIMOS,OGMIMU,          45, A
  OGMOM.K,OGMOMRN,OGMOMOS,OGMOMU,OGMLS.K,OGAM.K,
  OGAMN)
OGMN=36000                                              45.2, C
OGMIMRN=.006                                            45.3, C
OGMIMOS=.02                                             45.4, C
OGMIMU=.008                                             45.5, C
OGMOMRN=.009                                            45.6, C
OGMOMOS=.02                                             45.7, C
OGMOMU=.008                                             45.8, C
OGAMN=6600                                              45.9, C
    OGM    - OG MEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    OGMN   - OG MEN INITIAL (PEOPLE)
    OGMIM  - OG MEN IN-MIGRATION (PEOPLE/YR)
    OGMIMRN- OG MEN IN-MIG RATE NORMAL (PERCENT/YR)
    OGMIMOS- OG MEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    OGMIMU - OG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
    OGMOM  - OG MEN OUT-MIGRATION (PEOPLE/YR)
    OGMOMRN- OG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
    OGMOMOS- OG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    OGMOMU - OG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    OGMLS  - OG MEN LEAVING SCHOOL (PEOPLE/YR)
    OGAM   - OG AGING MEN (PEOPLE)
    OGAMN  - OG AGING MEN INITIAL (PEOPLE)

OGMLS.K=YCGFOG.K+YSCFOG.K+YOGFOG.K+YHGFOG.K+            46, A
  YHOFOG.K
    OGMLS  - OG MEN LEAVING SCHOOL (PEOPLE/YR)
    YCGFOG - MALE YOUTH OF CG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YSCFOG - MALE YOUTH OF SC FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YOGFOG - MALE YOUTH OF OG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YHGFOG - MALE YOUTH OF HG FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
    YHOFOG - MALE YOUTH OF HO FAMILIES BECOMING OG
             ADULTS (PEOPLE/YR)
```

```
HGM.K=EXA(HGMN,HGMIM.K,HGMIMRN,HGMIMOS,HGMIMU,          47, A
  HGMOM.K,HGMOMRN,HGMOMOS,HGMOMU,HGMLS.K,HGAM.K,
  HGAMN)
HGMN=360000                                             47.2, C
HGMIMRN=.006                                            47.3, C
HGMIMOS=.02                                             47.4, C
HGMIMU=.008                                             47.5, C
HGMOMRN=.009                                            47.6, C
HGMOMOS=.02                                             47.7, C
HGMOMU=.008                                             47.8, C
HGAMN=64800                                             47.9, C
    HGM    - HG MEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    HGMN   - HG MEN INITIAL (PEOPLE)
    HGMIM  - HG MEN IN-MIGRATION (PEOPLE/YR)
    HGMIMRN- HG MEN IN-MIG RATE NORMAL (PERCENT/YR)
    HGMIMOS- HG MEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    HGMIMU - HG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
    HGMOM  - HG MEN OUT-MIGRATION (PEOPLE/YR)
    HGMOMRN- HG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
    HGMOMOS- HG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    HGMOMU - HG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    HGMLS  - HG MEN LEAVING SCHOOL (PEOPLE/YR)
    HGAM   - HG AGING MEN (PEOPLE)
    HGAMN  - HG AGING MEN INITIAL (PEOPLE)

HGMLS.K=YCGFHG.K+YSCFHG.K+YOGFHG.K+YHGFHG.K+            48, A
  YHOFHG.K
    HGMLS  - HG MEN LEAVING SCHOOL (PEOPLE/YR)
    YCGFHG - MALE YOUTH OF CG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YSCFHG - MALE YOUTH OF SC FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YOGFHG - MALE YOUTH OF OG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YHGFHG - MALE YOUTH OF HG FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
    YHOFHG - MALE YOUTH OF HO FAMILIES BECOMING HG
             ADULTS (PEOPLE/YR)
```

```
HOM.K=EXA(HOMN,HOMIM.K,HOMIMRN,HOMIMOS,HOMIMU,          49, A
  HOMOM.K,HOMOMRN,HOMOMOS,HOMOMU,HOMLS.K,HOAM.K,
  HOAMN)
HOMN=720000                                             49.2, C
HOMIMRN=.006                                            49.3, C
HOMIMOS=.01                                             49.4, C
HOMIMU=.01                                              49.5, C
HOMOMRN=.009                                            49.6, C
HOMOMOS=.01                                             49.7, C
HOMOMU=.01                                              49.8, C
HOAMN=153600                                            49.9, C
    HOM    - HO MEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    HOMN   - HO MEN INITIAL (PEOPLE)
    HOMIM  - HO MEN IN-MIGRATION (PEOPLE/YR)
    HOMIMRN- HO MEN IN-MIG RATE NORMAL (PERCENT/YR)
    HOMIMOS- HO MEN IN-MIG DUE TO OCC STATUS (PERCENT/
               YR)
    HOMIMU - HO MEN IN-MIG DUE TO UNEM (PERCENT/YR)
    HOMOM  - HO MEN OUT-MIGRATION (PEOPLE/YR)
    HOMOMRN- HO MEN OUT-MIG RATE NORMAL (PERCENT/YR)
    HOMOMOS- HO MEN OUT-MIG DUE TO OCC STATUS (PERCENT/
               YR)
    HOMOMU - HO MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    HOMLS  - HO MEN LEAVING SCHOOL (PEOPLE/YR)
    HOAM   - HO AGING MEN (PEOPLE)
    HOAMN  - HO AGING MEN INITIAL (PEOPLE)

HOMLS.K=YCGFHO.K+YSCFHO.K+YOGFHO.K+YHGFHO.K+            50, A
  YHOFHO.K
    HOMLS  - HO MEN LEAVING SCHOOL (PEOPLE/YR)
    YCGFHO - MALE YOUTH OF CG FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    YSCFHO - MALE YOUTH OF SC FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    YOGFHO - MALE YOUTH OF OG FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    YHGFHO - MALE YOUTH OF HG FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)
    YHOFHO - MALE YOUTH OF HO FAMILIES BECOMING HO
               ADULTS (PEOPLE/YR)

M.K=CGM.K+SCM.K+OGM.K+HGM.K+HOM.K                       51, S
    M      - MEN -- AGE 20-64 (PEOPLE)
    CGM    - CG MEN (PEOPLE)
    SCM    - SC MEN (PEOPLE)
    OGM    - OG MEN (PEOPLE)
    HGM    - HG MEN (PEOPLE)
    HOM    - HO MEN (PEOPLE)

AM.K=CGAM.K+SCAM.K+OGAM.K+HGAM.K+HOAM.K                 52, S
    AM     - AGING MEN -- AGE 65+ (PEOPLE)
    CGAM   - CG AGING MEN (PEOPLE)
    SCAM   - SC AGING MEN (PEOPLE)
    OGAM   - OG AGING MEN (PEOPLE)
    HGAM   - HG AGING MEN (PEOPLE)
    HOAM   - HO AGING MEN (PEOPLE)
```

```
Y.K=YCGF.K+YSCF.K+YOGF.K+YHGF.K+YHOF.K                    53, S
     Y       - MALE YOUTH -- AGE 15-19 (PEOPLE)
     YCGF    - MALE YOUTH OF CG FAMILIES (PEOPLE)
     YSCF    - MALE YOUTH OF SC FAMILIES (PEOPLE)
     YOGF    - MALE YOUTH OF OG FAMILIES (PEOPLE)
     YHGF    - MALE YOUTH OF HG FAMILIES (PEOPLE)
     YHOF    - MALE YOUTH OF HO FAMILIES (PEOPLE)

B.K=BCGF.K+BSCF.K+BOGF.K+BHGF.K+BHOF.K                    54, S
     B       - BOYS -- AGE 0-14 (PEOPLE)
     BCGF    - BOYS OF CG FAMILIES (PEOPLE)
     BSCF    - BOYS OF SC FAMILIES (PEOPLE)
     BOGF    - BOYS OF OG FAMILIES (PEOPLE)
     BHGF    - BOYS OF HG FAMILIES (PEOPLE)
     BHOF    - BOYS OF HO FAMILIES (PEOPLE)
```

```
CGW.K=EXA(CGWN,CGWIM.K,CGWIMRN,CGWIMOS,CGWIMU,          95, A
  CGWOM.K,CGWOMRN,CGWOMOS,CGWOMU,CGWLS.K,CGAW.K,
  CGAWN)
CGWN=126000                                             95.2, C
CGWIMRN=.006                                            95.3, C
CGWIMOS=.03                                             95.4, C
CGWIMU=.005                                             95.5, C
CGWOMRN=.009                                            95.6, C
CGWOMOS=.03                                             95.7, C
CGWOMU=.005                                             95.8, C
CGAWN=27000                                             95.9, C
    CGW    - CG WOMEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    CGWN   - CG WOMEN INITIAL (PEOPLE)
    CGWIM  - CG WOMEN IN-MIGRATION (PEOPLE/YR)
    CGWIMRN- CG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
    CGWIMOS- CG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    CGWIMU - CG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
    CGWOM  - CG WOMEN OUT-MIGRATION (PEOPLE/YR)
    CGWOMRN- CG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
    CGWOMOS- CG WOMEN OUT-MIG DUE TO OCC STATUS
             (PERCENT/YR)
    CGWOMU - CG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    CGWLS  - CG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    CGAW   - CG AGING WOMEN (PEOPLE)
    CGAWN  - CG AGING WOMEN INITIAL (PEOPLE)
```

```
CGWLS.K=VCGFCG.K+VSCFCG.K+VOGFCG.K+VHGFCG.K+          96, A
  VHOFCG.K
    CGWLS  - CG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    VCGFCG - FEMALE YOUTH OF CG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    VSCFCG - FEMALE YOUTH OF SC FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    VOGFCG - FEMALE YOUTH OF OG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    VHGFCG - FEMALE YOUTH OF HG FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)
    VHOFCG - FEMALE YOUTH OF HO FAMILIES BECOMING CG
             ADULTS (PEOPLE/YR)

SCW.K=EXA(SCWN,SCWIM.K,SCWIMRN,SCWIMOS,SCWIMU,        97, A
  SCWOM.K,SCWOMRN,SCWOMOS,SCWOMU,SCWLS.K,SCAW.K,
  SCAWN)
SCWN=126000                                           97.2, C
SCWIMRN=.006                                          97.3, C
SCWIMOS=.025                                          97.4, C
SCWIMU=.006                                           97.5, C
SCWOMRN=.009                                          97.6, C
SCWOMOS=.025                                          97.7, C
SCWOMU=.006                                           97.8, C
SCAWN=27000                                           97.9, C
    SCW    - SC WOMEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    SCWN   - SC WOMEN INITIAL (PEOPLE)
    SCWIM  - SC WOMEN IN-MIGRATION (PEOPLE/YR)
    SCWIMRN- SC WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
    SCWIMOS- SC WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    SCWIMU - SC WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
    SCWOM  - SC WOMEN OUT-MIGRATION (PEOPLE/YR)
    SCWOMRN- SC WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
    SCWOMOS- SC WOMEN OUT-MIG DUE TO OCC STATUS
             (PERCENT/YR)
    SCWOMU - SC WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    SCWLS  - SC WOMEN LEAVING SCHOOL (PEOPLE/YR)
    SCAW   - SC AGING WOMEN (PEOPLE)
    SCAWN  - SC AGING WOMEN INITIAL (PEOPLE)

SCWLS.K=VCGFSC.K+VSCFSC.K+VOGFSC.K+VHGFSC.K+          98, A
  VHOFSC.K
    SCWLS  - SC WOMEN LEAVING SCHOOL (PEOPLE/YR)
    VCGFSC - FEMALE YOUTH OF CG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VSCFSC - FEMALE YOUTH OF SC FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VOGFSC - FEMALE YOUTH OF OG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VHGFSC - FEMALE YOUTH OF HG FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
    VHOFSC - FEMALE YOUTH OF HO FAMILIES BECOMING SC
             ADULTS (PEOPLE/YR)
```

```
OGW.K=EXA(OGWN,OGWIM.K,OGWIMRN,OGWIMOS,OGWIMU,          99, A
  OGWOM.K,OGWOMRN,OGWOMOS,OGWOMU,OGWLS.K,OGAW.K,
  OGAWN)
OGWN=36000                                              99.2, C
OGWIMRN=.006                                            99.3, C
OGWIMOS=.02                                             99.4, C
OGWIMU=.008                                             99.5, C
OGWOMRN=.009                                            99.6, C
OGWOMOS=.02                                             99.7, C
OGWOMU=.008                                             99.8, C
OGAWN=6600                                              99.9, C
    OGW     - OG WOMEN (PEOPLE)
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    OGWN    - OG WOMEN INITIAL (PEOPLE)
    OGWIM   - OG WOMEN IN-MIGRATION (PEOPLE/YR)
    OGWIMRN- OG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
    OGWIMOS- OG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/
              YR)
    OGWIMU  - OG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
    OGWOM   - OG WOMEN OUT-MIGRATION (PEOPLE/YR)
    OGWOMRN- OG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
    OGWOMOS- OG WOMEN OUT-MIG DUE TO OCC STATUS
              (PERCENT/YR)
    OGWOMU  - OG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    OGWLS   - OG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    OGAW    - OG AGING WOMEN (PEOPLE)
    OGAWN   - OG AGING WOMEN INITIAL (PEOPLE)

OGWLS.K=VCGFOG.K+VSCFOG.K+VOGFOG.K+VHGFOG.K+            100, A
  VHOFOG.K
    OGWLS   - OG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    VCGFOG  - FEMALE YOUTH OF CG FAMILIES BECOMING OG
              ADULTS (PEOPLE/YR)
    VSCFOG  - FEMALE YOUTH OF SC FAMILIES BECOMING OG
              ADULTS (PEOPLE/YR)
    VOGFOG  - FEMALE YOUTH OF OG FAMILIES BECOMING OG
              ADULTS (PEOPLE/YR)
    VHGFOG  - FEMALE YOUTH OF HG FAMILIES BECOMING OG
              ADULTS (PEOPLE/YR)
    VHOFOG  - FEMALE YOUTH OF HO FAMILIES BECOMING OG
              ADULTS (PEOPLE/YR)
```

```
HGW.K=EXA(HGWN,HGWIM.K,HGWIMRN,HGWIMOS,HGWIMU,          101, A
  HGWOM.K,HGWOMRN,HGWOMOS,HGWOMU,HGWLS.K,HGAW.K,
  HGAWN)
HGWN=360000                                             101.2, C
HGWIMRN=.006                                            101.3, C
HGWIMOS=.02                                             101.4, C
HGWIMU=.008                                             101.5, C
HGWOMRN=.009                                            101.6, C
HGWOMOS=.02                                             101.7, C
HGWOMU=.008                                             101.8, C
HGAWN=64800                                             101.9, C
    HGW     - HG WOMEN (PEOPLE)
    EXA     - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    HGWN    - HG WOMEN INITIAL (PEOPLE)
    HGWIM   - HG WOMEN IN-MIGRATION (PEOPLE/YR)
    HGWIMRN- HG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
    HGWIMOS- HG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/
              YR)
    HGWIMU  - HG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
    HGWOM   - HG WOMEN OUT-MIGRATION (PEOPLE/YR)
    HGWOMRN- HG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
    HGWOMOS- HG WOMEN OUT-MIG DUE TO OCC STATUS
              (PERCENT/YR)
    HGWOMU  - HG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    HGWLS   - HG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    HGAW    - HG AGING WOMEN (PEOPLE)
    HGAWN   - HG AGING WOMEN INITIAL (PEOPLE)

HGWLS.K=VCGFHG.K+VSCFHG.K+VOGFHG.K+VHGFHG.K+            102, A
  VHOFHG.K
    HGWLS   - HG WOMEN LEAVING SCHOOL (PEOPLE/YR)
    VCGFHG  - FEMALE YOUTH OF CG FAMILIES BECOMING HG
              ADULTS (PEOPLE/YR)
    VSCFHG  - FEMALE YOUTH OF SC FAMILIES BECOMING HG
              ADULTS (PEOPLE/YR)
    VOGFHG  - FEMALE YOUTH OF OG FAMILIES BECOMING HG
              ADULTS (PEOPLE/YR)
    VHGFHG  - FEMALE YOUTH OF HG FAMILIES BECOMING HG
              ADULTS (PEOPLE/YR)
    VHOFHG  - FEMALE YOUTH OF HO FAMILIES BECOMING HG
              ADULTS (PEOPLE/YR)
```

```
HOW.K=EXA(HOWN,HOWIM.K,HOWIMRN,HOWIMOS,HOWIMU,          103, A
  HOWOM.K,HOWOMRN,HOWOMOS,HOWOMU,HOWLS.K,HOAW.K,
  HOAWN)
HOWN=720000                                             103.2, C
HOWIMRN=.006                                            103.3, C
HOWIMOS=.01                                             103.4, C
HOWIMU=.01                                              103.5, C
HOWOMRN=.009                                            103.6, C
HOWOMOS=.01                                             103.7, C
HOWOMU=.01                                              103.8, C
HOAWN=1536.0                                            103.9, C
    HOW    - HO WOMEN (PEOPLE)
    EXA    - **MACRO FUNCTION**   ED-"X" ADULTS (PEOPLE)
    HOWN   - HO WOMEN INITIAL (PEOPLE)
    HOWIM  - HO WOMEN IN-MIGRATION (PEOPLE/YR)
    HOWIMRN- HO WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
    HOWIMOS- HO WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/
             YR)
    HOWIMU - HO WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
    HOWOM  - HO WOMEN OUT-MIGRATION (PEOPLE/YR)
    HOWOMRN- HO WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
    HOWOMOS- HO WOMEN OUT-MIG DUE TO OCC STATUS
             (PERCENT/YR)
    HOWOMU - HO WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
    HOWLS  - HO WOMEN LEAVING SCHOOL (PEOPLE/YR)
    HOAW   - HO AGING WOMEN (PEOPLE)
    HOAWN  - HO AGING WOMEN INITIAL (PEOPLE)

HOWLS.K=VCGFHO.K+VSCFHO.K+VOGFHO.K+VHGFHO.K+            104, A
  VHOFHO.K
    HOWLS  - HO WOMEN LEAVING SCHOOL (PEOPLE/YR)
    VCGFHO - FEMALE YOUTH OF CG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VSCFHO - FEMALE YOUTH OF SC FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VOGFHO - FEMALE YOUTH OF OG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VHGFHO - FEMALE YOUTH OF HG FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)
    VHOFHO - FEMALE YOUTH OF HO FAMILIES BECOMING HO
             ADULTS (PEOPLE/YR)

W.K=CGW.K+SCW.K+OGW.K+HGW.K+HOW.K                       105, S
    W      - WOMEN -- AGE 20-64 (PEOPLE)
    CGW    - CG WOMEN (PEOPLE)
    SCW    - SC WOMEN (PEOPLE)
    OGW    - OG WOMEN (PEOPLE)
    HGW    - HG WOMEN (PEOPLE)
    HOW    - HO WOMEN (PEOPLE)

AW.K=CGAW.K+SCAW.K+OGAW.K+HGAW.K+HOAW.K                 106, S
    AW     - AGING WOMEN -- AGE 65+ (PEOPLE)
    CGAW   - CG AGING WOMEN (PEOPLE)
    SCAW   - SC AGING WOMEN (PEOPLE)
    OGAW   - OG AGING WOMEN (PEOPLE)
    HGAW   - HG AGING WOMEN (PEOPLE)
    HOAW   - HO AGING WOMEN (PEOPLE)
```

V.K=VCGF.K+VSCF.K+VOGF.K+VHGF.K+VHOF.K 107, S

V - FEMALE YOUTH -- AGE 15-19 (PEOPLE)
VCGF - FEMALE YOUTH OF CG FAMILIES (PEOPLE)
VSCF - FEMALE YOUTH OF SC FAMILIES (PEOPLE)
VOGF - FEMALE YOUTH OF OG FAMILIES (PEOPLE)
VHGF - FEMALE YOUTH OF HG FAMILIES (PEOPLE)
VHOF - FEMALE YOUTH OF HO FAMILIES (PEOPLE)

G.K=GCGF.K+GSCF.K+GOGF.K+GHGF.K+GHOF.K 108, S

G - GIRLS -- AGE 0-14 (PEOPLE)
GCGF - GIRLS OF CG FAMILIES (PEOPLE)
GSCF - GIRLS OF SC FAMILIES (PEOPLE)
GOGF - GIRLS OF OG FAMILIES (PEOPLE)
GHGF - GIRLS OF HG FAMILIES (PEOPLE)
GHOF - GIRLS OF HO FAMILIES (PEOPLE)

```
P.K=B.K+Y.K+M.K+AM.K+G.K+V.K+W.K+AW.K                    109, S
    P       - POPULATION (PEOPLE)
    B       - BOYS -- AGE 0-14 (PEOPLE)
    Y       - MALE YOUTH -- AGE 15-19 (PEOPLE)
    M       - MEN -- AGE 20-64 (PEOPLE)
    AM      - AGING MEN -- AGE 65+ (PEOPLE)
    G       - GIRLS -- AGE 0-14 (PEOPLE)
    V       - FEMALE YOUTH -- AGE 15-19 (PEOPLE)
    W       - WOMEN -- AGE 20-64 (PEOPLE)
    AW      - AGING WOMEN -- AGE 65+ (PEOPLE)
```

```
CGF.K=CGM.K                                                    110, A
    CGF     - CG FAMILIES (FAMILIES)
    CGM     - CG MEN (PEOPLE)

CGFIM.K=CGMIM.K                                                111, A
    CGFIM   - CG FAMILIES IN-MIGRATION (FAMILIES/YR)
    CGMIM   - CG MEN IN-MIGRATION (PEOPLE/YR)

CGFOM.K=CGMOM.K                                                112, A
    CGFOM   - CG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    CGMOM   - CG MEN OUT-MIGRATION (PEOPLE/YR)

SCF.K=SCM.K                                                    113, A
    SCF     - SC FAMILIES (FAMILIES)
    SCM     - SC MEN (PEOPLE)

SCFIM.K=SCMIM.K                                                114, A
    SCFIM   - SC FAMILIES IN-MIGRATION (FAMILIES/YR)
    SCMIM   - SC MEN IN-MIGRATION (PEOPLE/YR)

SCFOM.K=SCMOM.K                                                115, A
    SCFOM   - SC FAMILIES OUT-MIGRATION (FAMILIES/YR)
    SCMOM   - SC MEN OUT-MIGRATION (PEOPLE/YR)

OGF.K=OGM.K                                                    116, A
    OGF     - OG FAMILIES (FAMILIES)
    OGM     - OG MEN (PEOPLE)

OGFIM.K=OGMIM.K                                                117, A
    OGFIM   - OG FAMILIES IN-MIGRATION (FAMILIES/YR)
    OGMIM   - OG MEN IN-MIGRATION (PEOPLE/YR)

OGFOM.K=OGMOM.K                                                118, A
    OGFOM   - OG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    OGMOM   - OG MEN OUT-MIGRATION (PEOPLE/YR)

HGF.K=HGM.K                                                    119, A
    HGF     - HG FAMILIES (FAMILIES)
    HGM     - HG MEN (PEOPLE)

HGFIM.K=HGMIM.K                                                120, A
    HGFIM   - HG FAMILIES IN-MIGRATION (FAMILIES/YR)
    HGMIM   - HG MEN IN-MIGRATION (PEOPLE/YR)

HGFOM.K=HGMOM.K                                                121, A
    HGFOM   - HG FAMILIES OUT-MIGRATION (FAMILIES/YR)
    HGMOM   - HG MEN OUT-MIGRATION (PEOPLE/YR)

HOF.K=HOM.K                                                    122, A
    HOF     - HO FAMILIES (FAMILIES)
    HOM     - HO MEN (PEOPLE)

HOFIM.K=HOMIM.K                                                123, A
    HOFIM   - HO FAMILIES IN-MIGRATION (FAMILIES/YR)
    HOMIM   - HO MEN IN-MIGRATION (PEOPLE/YR)
```

HOFOM.K=HOMOM.K 124, A
HOFOM - HO FAMILIES OUT-MIGRATION (FAMILIES/YR)
HOMOM - HO MEN OUT-MIGRATION (PEOPLE/YR)

Labor Force Sector

The total labor force is the sum of the labor force participants from the teenage, adult, and aging adult aging adult population groups. For each age-education group, the number of labor force participants is equal to the total population of the group, multiplied by a labor force participation rate. This structure is represented by the macro EXPLF (education-"x" people in the labor force). Figure 4-5 is a flow diagram for this structure.

Labor force participation rates are assumed to vary with the perceived relative unemployment in the state, representing the so-called "discouraged worker effect."[1] Normal participation rates for each age-education group were estimated from the 1970 Census.[2] In the present model, a perceived unemployment rate of twice normal results in a uniform 10% reduction in the number of labor force participants from each age-education group.[3] The model permits varying this effect by age and education, but no data were found regarding this problem.

Job Sector

This sector describes the growth of primary and secondary jobs in the state. The macro function describing the job structure is called TXJ (type-

---

[1] This structure gives a "momentum" character to unemployment. When the unemployment rate is high, an increase in jobs will have a less-than-proportionate effect on unemployment, due to the return of previously discouraged workers to the labor force.

[2] Unfortunately, here as in almost all other demographic structures in the model, the Public Use Sample of the Census would be required to obtain precise estimates.

[3] The 10% value is much too large; it results in unrealistic damped oscillations in the unemployment rate, which can be observed in the simulations discussed in Section V. A value of 2.5% is probably more nearly correct.

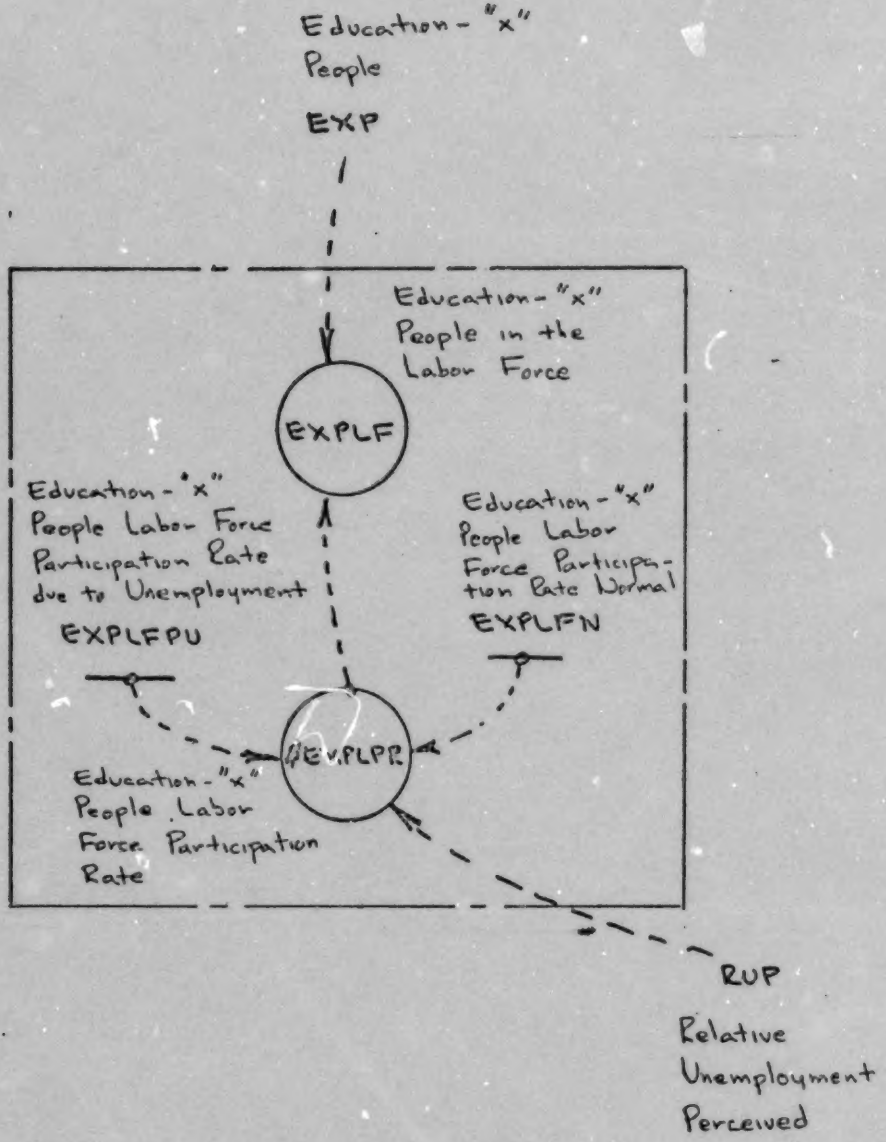

Figure 4-5 Labor Force Sector -- EXPLF macro function

```
MACRO EXPLF(EXP,EXPLFPN,EXPLFPU)

EXPLF.K=EXP.K*$EXPLPR                                    1, A
    EXPLF   - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
              LABOR FORCE (PEOPLE)
    $EXPLPR- ED-"X" PEOPLE LABOR FORCE PARTIC RATE
              (PERCENT)

$EXPLPR.K=EXPLFPN-EXPLFPU*1.44*LOGN(RUP.K)               2, A
    $EXPLPR- ED-"X" PEOPLE LABOR FORCE PARTIC RATE
              (PERCENT)
    EXPLFPN- ED-"X" PEOPLE LABOR FORCE PARTIC RATE
              NORMAL (PERCENT)
    EXPLFPU- ED-"X" PEOPLE LABOR FORCE PARTIC DUE TO
              UNEM (PERCENT)
    RUP     - RELATIVE UNEMPLOYMENT PERCEIVED (PERCENT)

MEND
```

```
CGMLF.K=EXPLF(CGM.K,CGMLFPN,CGMLFPU)                          125, A
CGMLFPN=.9                                                    125.1, C
CGMLFPU=.09                                                   125.2, C
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    CGM    - CG MEN (PEOPLE)
    CGMLFPN- CG MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    CGMLFPU- CG MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

CGWLF.K=EXPLF(CGW.K,CGWLFPN,CGWLFPU)                          126, A
CGWLFPN=.5                                                    126.1, C
CGWLFPU=.05                                                   126.2, C
    CGWLF  - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    CGW    - CG WOMEN (PEOPLE)
    CGWLFPN- CG WOMEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    CGWLFPU- CG WOMEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

SCMLF.K=EXPLF(SCM.K,SCMLFPN,SCMLFPU)                          127, A
SCMLFPN=.9                                                    127.1, C
SCMLFPU=.09                                                   127.2, C
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    SCM    - SC MEN (PEOPLE)
    SCMLFPN- SC MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    SCMLFPU- SC MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

SCWLF.K=EXPLF(SCW.K,SCWLFPN,SCWLFPU)                          128, A
SCWLFPN=.5                                                    128.1, C
SCWLFPU=.05                                                   128.2, C
    SCWLF  - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    SCW    - SC WOMEN (PEOPLE)
    SCWLFPN- SC WOMEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    SCWLFPU- SC WOMEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)
```

```
OGMLF.K=EXPLF(OGM.K,OGMLFPN,OGMLFPU)                          129, A
OGMLFPN=.9                                                    129.1, C
OGMLFPU=.09                                                   129.2, C
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    OGM    - OG MEN (PEOPLE)
    OGMLFPN- OG MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    OGMLFPU- OG MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

OGWLF.K=EXPLF(OGW.K,OGWLFPN,OGWLFPU)                          130, A
OGWLFPN=.5                                                    130.1, C
OGWLFPU=.05                                                   130.2, C
    OGWLF  - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    OGW    - OG WOMEN (PEOPLE)
    OGWLFPN- OG WOMEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    OGWLFPU- OG WOMEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

HGMLF.K=EXPLF(HGM.K,HGMLFPN,HGMLFPU)                          131, A
HGMLFPN=.9                                                    131.1, C
HGMLFPU=.09                                                   131.2, C
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HGM    - HG MEN (PEOPLE)
    HGMLFPN- HG MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HGMLFPU- HG MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

HGWLF.K=EXPLF(HGW.K,HGWLFPN,HGWLFPU)                          132, A
HGWLFPN=.5                                                    132.1, C
HGWLFPU=.05                                                   132.2, C
    HGWLF  - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HGW    - HG WOMEN (PEOPLE)
    HGWLFPN- HG WOMEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HGWLFPU- HG WOMEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)
```

```
HOMLF.K=EXPLF(HOM.K,HOMLFPN,HOMLFPU)                          133, A
HOMLFPN=.9                                                    133.1, C
HOMLFPU=.09                                                   133.2, C
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HOM    - HO MEN (PEOPLE)
    HOMLFPN- HO MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HOMLFPU- HO MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

HOWLF.K=EXPLF(HOW.K,HOWLFPN,HOWLFPU)                          134, A
HOWLFPN=.5                                                    134.1, C
HOWLFPU=.05                                                   134.2, C
    HOWLF  - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HOW    - HO WOMEN (PEOPLE)
    HOWLFPN- HO WOMEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HOWLFPU- HO WOMEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

YCGFLF.K=EXPLF(YCGF.K,YCGLFPN,YCGLFPU)                        135, A
YCGLFPN=.3                                                    135.1, C
YCGLFPU=.03                                                   135.2, C
    YCGFLF - MALE YOUTH OF CG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    YCGF   - MALE YOUTH OF CG FAMILIES (PEOPLE)
    YCGLFPN- MALE YOUTH OF CG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    YCGLFPU- MALE YOUTH OF CG FAM LABOR FORCE PARTIC DUE
             TO UNEM (PERCENT)

VCGFLF.K=EXPLF(VCGF.K,VCGLFPN,VCGLFPU)                        136, A
VCGLFPN=.3                                                    136.1, C
VCGLFPU=.03                                                   136.2, C
    VCGFLF - FEMALE YOUTH OF CG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    VCGF   - FEMALE YOUTH OF CG FAMILIES (PEOPLE)
    VCGLFPN- FEMALE YOUTH OF CG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    VCGLFPU- FEMALE YOUTH OF CG FAM LABOR FORCE PARTIC
             DUE TO UNEM (PERCENT)
```

```
YSCFLF.K=EXPLF(YSCF.K,YSCLFPN,YSCLFPU)                    137, A
YSCLFPN=.4                                                137.1, C
YSCLFPU=.04                                               137.2, C
    YSCFLF - MALE YOUTH OF SC FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    YSCF   - MALE YOUTH OF SC FAMILIES (PEOPLE)
    YSCLFPN- MALE YOUTH OF SC FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    YSCLFPU- MALE YOUTH OF SC FAM LABOR FORCE PARTIC DUE
             TO UNEM (PERCENT)

VSCFLF.K=EXPLF(VSCF.K,VSCLFPN,VSCLF                       138, A
VSCLFPN=.4                                                138.1, C
VSCLFPU=.04                                               138.2, C
    VSCFLF - FEMALE YOUTH OF SC FAMILI     E LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    VSCF   - FEMALE YOUTH OF SC FAMILIES (PEOPLE)
    VSCLFPN- FEMALE YOUTH OF SC FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    VSCLFPU- FEMALE YOUTH OF SC FAM LABOR FORCE PARTIC
             DUE TO UNEM (PERCENT)

YOGFLF.K=EXPLF(YOGF.K,YOGLFPN,YOGLFPU)                    139, A
YOGLFPN=.5                                                139.1, C
YOGLFPU=.05                                               139.2, C
    YOGFLF - MALE YOUTH OF OG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    YOGF   - MALE YOUTH OF OG FAMILIES (PEOPLE)
    YOGLFPN- MALE YOUTH OF OG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    YOGLFPU- MALE YOUTH OF OG FAM LABOR FORCE PARTIC DUE
             TO UNEM (PERCENT)

VOGFLF.K=EXPLF(VOGF.K,VOGLFPN,VOGLFPU)                    140, A
VOGLFPN=.5                                                140.1, C
VOGLFPU=.05                                               140.2, C
    VOGFLF - FEMALE YOUTH OF OG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    VOGF   - FEMALE YOUTH OF OG FAMILIES (PEOPLE)
    VOGLFPN- FEMALE YOUTH OF OG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    VOGLFPU- FEMALE YOUTH OF OG FAM LABOR FORCE PARTIC
             DUE TO UNEM (PERCENT)
```

```
YHGFLF.K=EXPLF(YHGF.K,YHGLFPN,YHGLFPU)                          141, A
                                                                141.1, C
YHGLFPN=.5                                                      141.2, C
YHGLFPU=.05
    YHGFLF - MALE YOUTH OF HG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    YHGF   - MALE YOUTH OF HG FAMILIES (PEOPLE)
    YHGLFPN- MALE YOUTH OF HG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    YHGLFPU- MALE YOUTH OF HG FAM LABOR FORCE PARTIC DUE
             TO UNEM (PERCENT)

VHGFLF.K=EXPLF(VHGF.K,VHGLFPN,VHGLFPU)                          142, A
                                                                142.1, C
VHGLFPN=.5                                                      142.2, C
VHGLFPU=.05
    VHGFLF - FEMALE YOUTH OF HG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    VHGF   - FEMALE YOUTH OF HG FAMILIES (PEOPLE)
    VHGLFPN- FEMALE YOUTH OF HG FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    VHGLFPU- FEMALE YOUTH OF HG FAM LABOR FORCE PARTIC
             DUE TO UNEM (PERCENT)

YHOFLF.K=EXPLF(YHOF.K,YHOLFPN,YHOLFPU)                          143, A
                                                                143.1, C
YHOLFPN=.7                                                      143.2, C
YHOLFPU=.07
    YHOFLF - MALE YOUTH OF HO FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    YHOF   - MALE YOUTH OF HO FAMILIES (PEOPLE)
    YHOLFPN- MALE YOUTH OF HO FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    YHOLFPU- MALE YOUTH OF HO FAM LABOR FORCE PARTIC DUE
             TO UNEM (PERCENT)

VHOFLF.K=EXPLF(VHOF.K,VHOLFPN,VHOLFPU)                          144, A
                                                                144.1, C
VHOLFPN=.7                                                      144.2, C
VHOLFPU=.07
    VHOFLF - FEMALE YOUTH OF HO FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    VHOF   - FEMALE YOUTH OF HO FAMILIES (PEOPLE)
    VHOLFPN- FEMALE YOUTH OF HO FAM LABOR FORCE PARTIC
             RATE NORMAL (PERCENT)
    VHOLFPU- FEMALE YOUTH OF HO FAM LABOR FORCE PARTIC
             DUE TO UNEM (PERCENT)
```

```
CGAMLF.K=EXPLF(CGAM.K,CGAMLPN,CGAMLPU)                          145, A
CGAMLPN=.3                                                      145.1, C
CGAMLPU=.03                                                     145.2, C
    CGAMLF - CG AGING MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    CGAM   - CG AGING MEN (PEOPLE)
    CGAMLPN- CG AGING MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    CGAMLPU- CG AGING MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

CGAWLF.K=EXPLF(CGAW.K,CGAWLPN,CGAWLPU)                          146, A
CGAWLPN=.15                                                     146.1, C
CGAWLPU=.015                                                    146.2, C
    CGAWLF - CG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    CGAW   - CG AGING WOMEN (PEOPLE)
    CGAWLPN- CG AGING WOMEN LABOR FORCE PARTIC RATE
             NORMAL (PERCENT)
    CGAWLPU- CG AGING WOMEN LABOR FORCE PARTIC DUE TO
             UNEM (PERCENT)

SCAMLF.K=EXPLF(SCAM.K,SCAMLPN,SCAMLPU)                          147, A
SCAMLPN=.3                                                      147.1, C
SCAMLPU=.03                                                     147.2, C
    SCAMLF - SC AGING MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    SCAM   - SC AGING MEN (PEOPLE)
    SCAMLPN- SC AGING MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    SCAMLPU- SC AGING MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

SCAWLF.K=EXPLF(SCAW.K,SCAWLPN,SCAWLPU)                          148, A
SCAWLPN=.15                                                     148.1, C
SCAWLPU=.015                                                    148.2, C
    SCAWLF - SC AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    SCAW   - SC AGING WOMEN (PEOPLE)
    SCAWLPN- SC AGING WOMEN LABOR FORCE PARTIC RATE
             NORMAL (PERCENT)
    SCAWLPU- SC AGING WOMEN LABOR FORCE PARTIC DUE TO
             UNEM (PERCENT)
```

```
OGAMLF.K=EXPLF(OGAM.K,OGAMLPN,OGAMLPU)                          149, A
OGAMLPN=.25                                                     149.1, C
OGAMLPU=.025                                                    149.2, C
    OGAMLF - OG AGING MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    OGAM   - OG AGING MEN (PEOPLE)
    OGAMLPN- OG AGING MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    OGAMLPU- OG AGING MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

OGAWLF.K=EXPLF(OGAW.K,OGAWLPN,OGAWLPU)                          150, A
OGAWLPN=.1                                                      150.1, C
OGAWLPU=.01                                                     150.2, C
    OGAWLF - OG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    OGAW   - OG AGING WOMEN (PEOPLE)
    OGAWLPN- OG AGING WOMEN LABOR FORCE PARTIC RATE
             NORMAL (PERCENT)
    OGAWLPU- OG AGING WOMEN LABOR FORCE PARTIC DUE TO
             UNEM (PERCENT)

HGAMLF.K=EXPLF(HGAM.K,HGAMLPN,HGAMLPU)                          151, A
HGAMLPN=.25                                                     151.1, C
HGAMLPU=.025                                                    151.2, C
    HGAMLF - HG AGING MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HGAM   - HG AGING MEN (PEOPLE)
    HGAMLPN- HG AGING MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HGAMLPU- HG AGING MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

HGAWLF.K=EXPLF(HGAW.K,HGAWLPN,HGAWLPU)                          152, A
HGAWLPN=.1                                                      152.1, C
HGAWLPU=.01                                                     152.2, C
    HGAWLF - HG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HGAW   - HG AGING WOMEN (PEOPLE)
    HGAWLPN- HG AGING WOMEN LABOR FORCE PARTIC RATE
             NORMAL (PERCENT)
    HGAWLPU- HG AGING WOMEN LABOR FORCE PARTIC DUE TO
             UNEM (PERCENT)
```

```
HOAMLF.K=EXPLF(HOAM.K,HOAMLPN,HOAMLPU)                          153, A
HOAMLPN=.25                                                     153.1, C
HOAMLPU=.025                                                    153.2, C
    HOAMLF - HO AGING MEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HOAM   - HO AGING MEN (PEOPLE)
    HOAMLPN- HO AGING MEN LABOR FORCE PARTIC RATE NORMAL
             (PERCENT)
    HOAMLPU- HO AGING MEN LABOR FORCE PARTIC DUE TO UNEM
             (PERCENT)

HOAWLF.K=EXPLF(HOAW.K,HOAWLPN,HOAWLPU)                          154, A
HOAWLPN=.1                                                      154.1, C
HOAWLPU=.01                                                     154.2, C
    HOAWLF - HO AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    EXPLF  - **MACRO FUNCTION**  ED-"X" PEOPLE IN THE
             LABOR FORCE (PEOPLE)
    HOAW   - HO AGING WOMEN (PEOPLE)
    HOAWLPN- HO AGING WOMEN LABOR FORCE PARTIC RATE
             NORMAL (PERCENT)
    HOAWLPU- HO AGING WOMEN LABOR FORCE PARTIC DUE TO
             UNEM (PERCENT)

MLF.K=CGMLF.K+SCMLF.K+OGMLF.K+HGMLF.K+HOMLF.K+                  155, A
  CGAMLF.K+SCAMLF.K+OGAMLF.K+HGAMLF.K+HOAMLF.K+
  YCGFLF.K+YSCFLF.K+YOGFLF.K+YHGFLF.K+YHOFLF.K
    MLF    - MEN IN THE LABOR FORCE (PEOPLE)
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    CGAMLF - CG AGING MEN IN THE LABOR FORCE (PEOPLE)
    SCAMLF - SC AGING MEN IN THE LABOR FORCE (PEOPLE)
    OGAMLF - OG AGING MEN IN THE LABOR FORCE (PEOPLE)
    HGAMLF - HG AGING MEN IN THE LABOR FORCE (PEOPLE)
    HOAMLF - HO AGING MEN IN THE LABOR FORCE (PEOPLE)
    YCGFLF - MALE YOUTH OF CG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    YSCFLF - MALE YOUTH OF SC FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    YOGFLF - MALE YOUTH OF OG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    YHGFLF - MALE YOUTH OF HG FAMILIES IN THE LABOR
             FORCE (PEOPLE)
    YHOFLF - MALE YOUTH OF HO FAMILIES IN THE LABOR
             FORCE (PEOPLE)
```

```
WLF.K=CGWLF.K+SCWLF.K+OGWLF.K+HGWLF.K+HOWLF.K+          156, A
  CGAWLF.K+SCAWLF.K+OGAWLF.K+HGAWLF.K+HOAWLF.K+
  VCGFLF.K+VSCFLF.K+VOGFLF.K+VHGFLF.K+VHOFLF.K
    WLF     - WOMEN IN THE LABOR FORCE (PEOPLE)
    CGWLF   - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    SCWLF   - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    OGWLF   - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    HGWLF   - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    HOWLF   - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    CGAWLF  - CG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    SCAWLF  - SC AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    OGAWLF  - OG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    HGAWLF  - HG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    HOAWLF  - HO AGING WOMEN IN THE LABOR FORCE (PEOPLE)
    VCGFLF  - FEMALE YOUTH OF CG FAMILIES IN THE LABOR
              FORCE (PEOPLE)
    VSCFLF  - FEMALE YOUTH OF SC FAMILIES IN THE LABOR
              FORCE (PEOPLE)
    VOGFLF  - FEMALE YOUTH OF OG FAMILIES IN THE LABOR
              FORCE (PEOPLE)
    VHGFLF  - FEMALE YOUTH OF HG FAMILIES IN THE LABOR
              FORCE (PEOPLE)
    VHOFLF  - FEMALE YOUTH OF HO FAMILIES IN THE LABOR
              FORCE (PEOPLE)

LF.K=MLF.K+WLF.K                                        157, A
    LF      - LABOR FORCE (PEOPLE)
    MLF     - MEN IN THE LABOR FORCE (PEOPLE)
    WLF     - WOMEN IN THE LABOR FORCE (PEOPLE)
```

"x" jobs). Figure 4-6 is a flow diagram for this structure. The present version of the model includes four job markets:

primary manufacturing jobs
primary service jobs
secondary manufacturing jobs
secondary service jobs

The macro function TXJ appears once for each of these markets. Sadly, the problem of classifying the jobs in Massachusetts according to the primary-secondary distinction has not been given sufficient attention to date. For purposes of this version of the model, it has simply been assumed that, in 1960, two-thirds of the jobs in the state were primary jobs and one-third were secondary jobs. This division is consistent with information on wages, but it rests on no real classification of jobs themselves. Further study of the classification problem is essential to the two-market theory.[1]

The normal growth rate parameters for the four job groups have each been set approximately equal to the normal growth rate for the population. Essentially, this reflects the assumption that, without policy intervention, the two-market structure will remain in about the present balance.

The normal growth in the number of primary and secondary jobs is modified by the relative wage and education characteristics of the state. When highly educated people are available, the primary job growth rate tends to increase; when wages are high, the primary growth rate is depressed. When people with moderately low educational credentials are available and wages are low, the secondary job growth rate tends to increase. The secondary job growth rate is severely depressed by high wages.[2]

---

[1] It has also been assumed that, in 1960, jobs were evenly divided between the services and manufacturing. This simplification has no effect on the model whatever, since, in the present version, services and manufacturing are identical in all respects.

[2] The relative wage and education variables are ratios of state values to United States means. They are almost always in the range 0.8 to 1.2. For further discussion, see the Wage and Educational Attractiveness sections below.

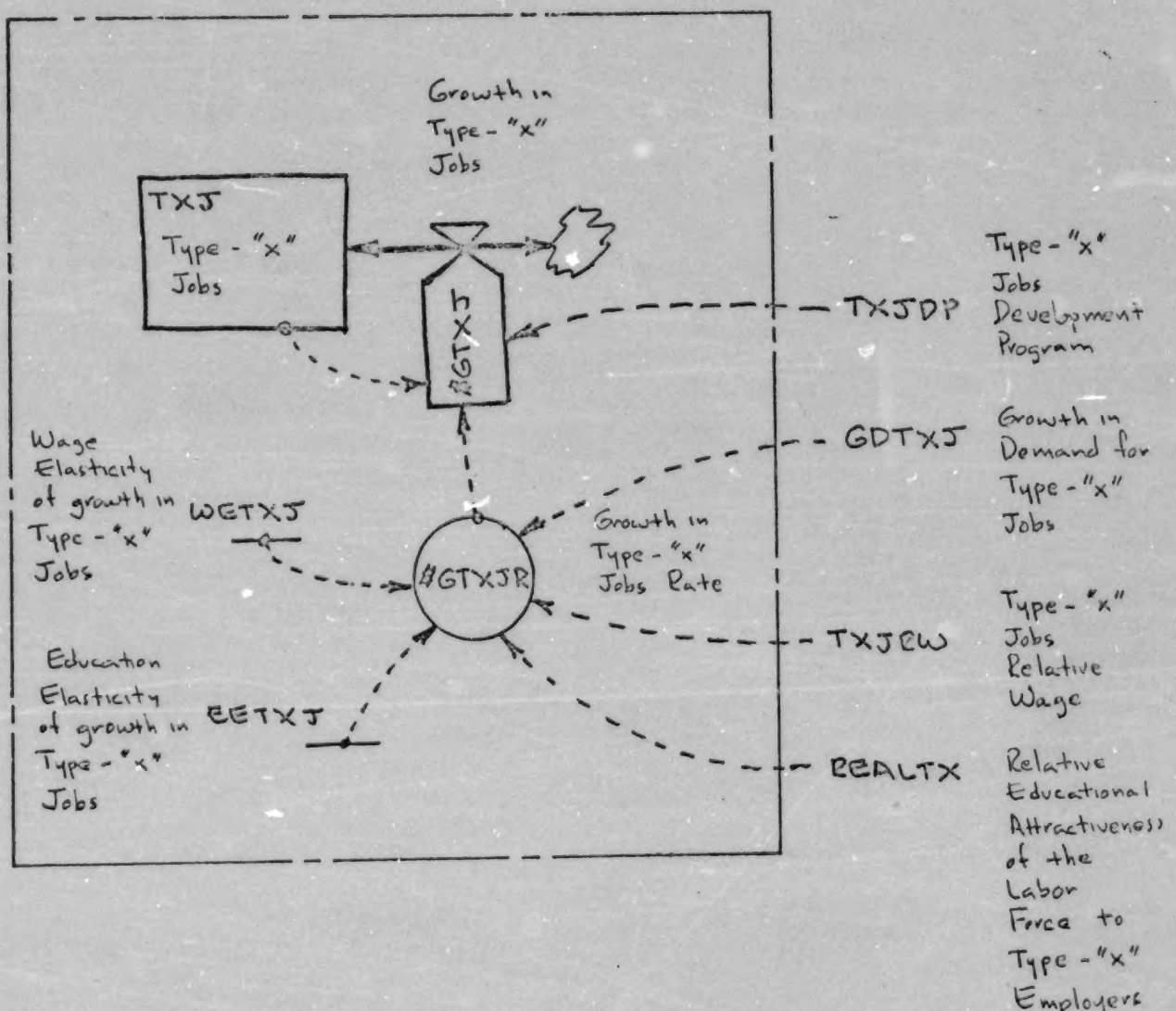
Growth in Type - "x" Jobs
TXJ
Type - "x" Jobs
#GTXH
TXJDP
Type - "x" Jobs Development Program
GDTXJ
Growth in Demand for Type - "x" Jobs
Wage Elasticity of growth in Type - "x" Jobs
WETXJ
#GTXJR
Growth in Type - "x" Jobs Rate
TXJRW
Type - "x" Jobs Relative Wage
Education Elasticity of growth in Type - "x" Jobs
EETXJ
REALTX
Relative Educational Attractiveness of the Labor Force to Type - "x" Employers

Figure 4-6 Job Sector -- TXJ macro function

```
MACRO TXJ(TXJN,GDTXJ,WETXJ,TXJRW,EETXJ,REALTX,
  TXJDP)

TXJ.K=TXJ.J+(DT)($GTXJ.JK)                                    1, L
TXJ=TXJN                                                      1.1, N
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    $GTXJ  - GROWTH IN TYPE-"X" JOBS (JOBS/YR)
    TXJN   - TYPE-"X" JOBS INITIAL (JOBS)

$GTXJ.KL=$GTXJR.K*TXJ.K+TXJDP.K                               2, R
    $GTXJ  - GROWTH IN TYPE-"X" JOBS (JOBS/YR)
    $GTXJR - GROWTH IN TYPE-"X" JOBS RATE (PERCENT/YR)
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    TXJDP  - TYPE-"X" JOB DEVELOPMENT PROGRAM (JOBS/YR)

$GTXJR.K=GDTXJ.K-WETXJ*1.44*LOGN(TXJRW.K)+EETXJ.K*            3, A
  1.44*LOGN(REALTX.K)
    $GTXJR - GROWTH IN TYPE-"X" JOBS RATE (PERCENT/YR)
    GDTXJ  - GROWTH IN DEMAND FOR TYPE-"X" JOBS
             (PERCENT/YR)
    WETXJ  - WAGE-ELASTICITY OF GROWTH IN TYPE-"X" JOBS
             (PERCENT/YR)
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
             WAGE (DIMENSIONLESS)
    EETXJ  - EDUCATION-ELASTICITY OF GROWTH IN TYPE-"X"
             JOBS (PERCENT/YR)

MEND
```

```
PMJ.K=TXJ(PMJN,GDPMJ.K,WEPMJ,PMJRW,K,EEPMJ,          158, A
  REALPM.K,PMJDP,K)
PMJN=705350                                          158.1, C
WEPMJ=.1                                             158.2, C
EEPMJ=.1                                             158.3, C
    PMJ    - PRIMARY MANUFACTURING JOBS (JOBS)
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    PMJN   - PRIMARY MANUFACTURING JOBS INITIAL (JOBS)
    GDPMJ  - GROWTH IN DEMAND FOR PRIMARY MFG JOBS
             (PERCENT/YR)
    WEPMJ  - WAGE-ELASTICITY OF GROWTH IN PRIMARY MFG
             JOBS (PERCENT/YR)
    PMJRW  - PRIMARY MFG JOB RELATIVE WAGE
             (DIMENSIONLESS)
    EEPMJ  - EDUCATION-ELASTICITY OF GROWTH IN PRIMARY
             MFG JOBS (PERCENT/YR)
    REALPM - RELATIVE EDUC ATTR OF LF TO PRIMARY MFG
             EMPLOYERS (DMNLS)
    PMJDP  - PRIMARY MFG JOB DEVELOPMENT PROGRAM (JOBS/
             YR)

GDPMJ.K=TABLE(GDPMJT,TIME.K,1960,2000,10)            159, A
GDPMJT=.01/.0095/.009/.0085/.008                     159.1, T
    GDPMJ  - GROWTH IN DEMAND FOR PRIMARY MFG JOBS
             (PERCENT/YR)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    TIME   - CALENDAR TIME (YEARS)

PSJ.K=TXJ(PSJN,GDPSJ.K,WEPSJ,PSJRW,K,EEPSJ,          160, A
  REALPS.K,PSJDP,K)
PSJN=705350                                          160.1, C
WEPSJ=.1                                             160.2, C
EEPSJ=.1                                             160.3, C
    PSJ    - PRIMARY SERVICE JOBS (JOBS)
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    PSJN   - PRIMARY SERVICE JOBS INITIAL (JOBS)
    GDPSJ  - GROWTH IN DEMAND FOR PRIMARY SVC JOBS
             (PERCENT/YR)
    WEPSJ  - WAGE-ELASTICITY OF GROWTH IN PRIMARY SVC
             JOBS (PERCENT/YR)
    PSJRW  - PRIMARY SVC JOB RELATIVE WAGE
             (DIMENSIONLESS)
    EEPSJ  - EDUCATION-ELASTICITY OF GROWTH IN PRIMARY
             SVC JOBS (PERCENT/YR)
    REALPS - RELATIVE EDUC ATTR OF LF TO PRIMARY SVC
             EMPLOYERS (DMNLS)
    PSJDP  - PRIMARY SVC JOB DEVELOPMENT PROGRAM (JOBS/
             YR)
```

```
GDPSJ.K=TABLE(GDPSJT,TIME.K,1960,2000,10)                    161, A
GDPSJT=.01/.0095/.009/.0085/.008                             161.1, T
    GDPSJ  - GROWTH IN DEMAND FOR PRIMARY SVC JOBS
             (PERCENT/YR)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    TIME   - CALENDAR TIME (YEARS)

SMJ.K=TXJ(SMJN,GDSMJ.K,WESMJ,SMJRW.K,EESMJ,                  162, A
  REALSM.K,SMJDP.K)
SMJN=352675                                                  162.1, C
WESMJ=.15                                                    162.2, C
EESMJ=.05                                                    162.3, C
    SMJ    - SECONDARY MANUFACTURING JOBS (JOBS)
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    SMJN   - SECONDARY MANUFACTURING JOBS INITIAL (JOBS)
    GDSMJ  - GROWTH IN DEMAND FOR SECONDARY MFG JOBS
             (PERCENT/YR)
    WESMJ  - WAGE-ELASTICITY OF GROWTH IN SECONDARY MFG
             JOBS (PERCENT/YR)
    SMJRW  - SECONDARY MFG JOB RELATIVE WAGE
             (DIMENSIONLESS)
    EESMJ  - EDUCATION-ELASTICITY OF GROWTH IN SECONDARY
             MFG JOBS (PERCENT/YR)
    REALSM - RELATIVE EDUC ATTR OF LF TO SECONDARY MFG
             EMPLOYERS (DMNLS)
    SMJDP  - SECONDARY MFG JOB DEVELOPMENT PROGRAM
             (JOBS/YR)

GDSMJ.K=TABLE(GDSMJT,TIME.K,1960,2000,10)                    163, A
GDSMJT=.01/.0095/.009/.0085/.008                             163.1, T
    GDSMJ  - GROWTH IN DEMAND FOR SECONDARY MFG JOBS
             (PERCENT/YR)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    TIME   - CALENDAR TIME (YEARS)

SSJ.K=TXJ(SSJN,GDSSJ.K,WESSJ,SSJRW.K,EESSJ,                  164, A
  REALSS.K,SSJDP.K)
SSJN=352675                                                  164.1, C
WESSJ=.15                                                    164.2, C
EESSJ=.05                                                    164.3, C
    SSJ    - SECONDARY SERVICE JOBS (JOBS)
    TXJ    - **MACRO FUNCTION**  TYPE-"X" JOBS (JOBS)
    SSJN   - SECONDARY SERVICE JOBS INITIAL (JOBS)
    GDSSJ  - GROWTH IN DEMAND FOR SECONDARY SVC JOBS
             (PERCENT/YR)
    WESSJ  - WAGE-ELASTICITY OF GROWTH IN SECONDARY SVC
             JOBS (PERCENT/YR)
    SSJRW  - SECONDARY SVC JOB RELATIVE WAGE
             (DIMENSIONLESS)
    EESSJ  - EDUCATION-ELASTICITY OF GROWTH IN SECONDARY
             SVC JOBS (PERCENT/YR)
    REALSS - RELATIVE EDUC ATTR OF LF TO SECONDARY SVC
             EMPLOYERS (DMNLS)
    SSJDP  - SECONDARY SVC JOB DEVELOPMENT PROGRAM
             (JOBS/YR)
```

```
GDSSJ.K=TABLE(GDSSJT,TIME.K,1960,2000,10)                    165, A
GDSSJT=.01/.0095/.009/.0085/.008                             165.1, T
    GDSSJ  - GROWTH IN DEMAND FOR SECONDARY SVC JOBS
             (PERCENT/YR)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    TIME   - CALENDAR TIME (YEARS)

PJ.K=PMJ.K+PSJ.K                                             166, S
    PJ     - PRIMARY JOBS (JOBS)
    PMJ    - PRIMARY MANUFACTURING JOBS (JOBS)
    PSJ    - PRIMARY SERVICE JOBS (JOBS)

SJ.K=SMJ.K+SSJ.K                                             167, S
    SJ     - SECONDARY JOBS (JOBS)
    SMJ    - SECONDARY MANUFACTURING JOBS (JOBS)
    SSJ    - SECONDARY SERVICE JOBS (JOBS)

FSJ.K=SJ.K/J.K                                               168, S
    FSJ    - FRACTION SECONDARY JOBS (PERCENT)
    SJ     - SECONDARY JOBS (JOBS)
    J      - JOBS (JOBS)

J.K=PMJ.K+PSJ.K+SMJ.K+SSJ.K                                  169, A
    J      - JOBS (JOBS)
    PMJ    - PRIMARY MANUFACTURING JOBS (JOBS)
    PSJ    - PRIMARY SERVICE JOBS (JOBS)
    SMJ    - SECONDARY MANUFACTURING JOBS (JOBS)
    SSJ    - SECONDARY SERVICE JOBS (JOBS)
```

```
PMJDP.K=PMJ.K*PMJDR*CLIP(0,1,SWTJD,TIME.K)-SMJDP.K  202, A
PMJDR=0                                             202.1, C
    PMJDP  - PRIMARY MFG JOB DEVELOPMENT PROGRAM (JOBS/
             YR)
    PMJ    - PRIMARY MANUFACTURING JOBS (JOBS)
    PMJDR  - PRIMARY MFG JOB DEVELOPMENT RATE (%/YR)
    CLIP   - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
             CHANGE PARAMETER VALUE
    SWTJD  - SWITCH TIME FOR JOB DEVELOPMENT PROGRAM
             (YEARS)
    TIME   - CALENDAR TIME (YEARS)
    SMJDP  - SECONDARY MFG JOB DEVELOPMENT PROGRAM
             (JOBS/YR)

PSJDP.K=PSJ.K*PSJDR*CLIP(0,1,SWTJD,TIME.K)-SSJDP.K  203, A
PSJDR=0                                             203.1, C
    PSJDP  - PRIMARY SVC JOB DEVELOPMENT PROGRAM (JOBS/
             YR)
    PSJ    - PRIMARY SERVICE JOBS (JOBS)
    PSJDR  - PRIMARY SVC JOB DEVELOPMENT RATE (%/YR)
    CLIP   - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
             CHANGE PARAMETER VALUE
    SWTJD  - SWITCH TIME FOR JOB DEVELOPMENT PROGRAM
             (YEARS)
    TIME   - CALENDAR TIME (YEARS)
    SSJDP  - SECONDARY SVC JOB DEVELOPMENT PROGRAM
             (JOBS/YR)

SMJDP.K=-SMJ.K*SMJDR*CLIP(0,1,SWTJD,TIME.K)         204, A
SMJDR=0                                             204.1, C
    SMJDP  - SECONDARY MFG JOB DEVELOPMENT PROGRAM
             (JOBS/YR)
    SMJ    - SECONDARY MANUFACTURING JOBS (JOBS)
    SMJDR  - SECONDARY MFG JOB DEVELOPMENT RATE (%/YR)
    CLIP   - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
             CHANGE PARAMETER VALUE
    SWTJD  - SWITCH TIME FOR JOB DEVELOPMENT PROGRAM
             (YEARS)
    TIME   - CALENDAR TIME (YEARS)

SSJDP.K=-SSJ.K*SSJDR*CLIP(0,1,SWTJD,TIME.K)         205, A
SSJDR=0                                             205.1, C
SWTJD=1965                                          205.2, C
    SSJDP  - SECONDARY SVC JOB DEVELOPMENT PROGRAM
             (JOBS/YR)
    SSJ    - SECONDARY SERVICE JOBS (JOBS)
    SSJDR  - SECONDARY SVC JOB DEVELOPMENT RATE (%/YR)
    CLIP   - LOGICAL FUNCTION, USED AS A TIME SWITCH TO
             CHANGE PARAMETER VALUE
    SWTJD  - SWITCH TIME FOR JOB DEVELOPMENT PROGRAM
             (YEARS)
    TIME   - CALENDAR TIME (YEARS)
```

The parameter values selected for this sector are essentially arbitrary. The wage elasticities of growth are similar in magnitude to those reported in Hamilton, et al; the education elasticities were chosen to be commensurate with the wage parameters. The elasticities indicate the increase in the growth rates of primary or secondary jobs resulting from a factor of two advantage in relative education or wage.[1]

wage elasticity - primary manufacturing jobs	0.1
education elasticity - primary manufacturing jobs	0.1
wage elasticity - primary service jobs	0.1
education elasticity - primary service jobs	0.1
wage elasticity - secondary manufacturing jobs	0.15
education elasticity - secondary manufacturing	0.05
wage elasticity - secondary service jobs	0.15
education elasticity - secondary service jobs	0.05

In many respects, the job sector is the least satisfactory of the sectors in the model. Much of the dual labor market theory is neglected in the present formulation -- in particular, there is no explicit treatment of the on-the-job training gained in primary employment and the high job turnover rate in secondary employment. These ideas are captured only implicitly, in the wage and education elasticities for the two sectors, and the education preferences of each.

Nevertheless, the behavior of the job sector is broadly consistent with the theory. As indicated in section V below, experimental adjustments in the normal growth rates of either the primary or secondary sector tend to be compensated by wage and education changes which preserve the two-market structure. Several job-development parameters permit testing the

[1] Note that normal growth rate parameters for the job sectors are time varying, and decline from 0.01 in 1960 to 0.008 in 2000.

effects of experimental policies which convert secondary to primary jobs or change the normal job growth rates.

Unemployment Sector

The unemployment rate is simply the total labor force less the total number of jobs, divided by the total labor force. The unemployment rate is divided by the normal United States unemployment rate (taken to be a constant .05) to obtain the relative unemployment in Massachusetts.

The "relative unemployment perceived" is a three year exponential average of the relative unemployment rate; this variable is used in the "discouraged worker" labor force participation structure.

Educational Attractiveness Sector

According to the dual labor market theory, employers have developed attitudes concerning the kinds of employees appropriate for primary and secondary jobs. Rarely would an employer hire a high school dropout for a primary job, nor would an employer often hire a college graduate for a secondary job -- if more "suitable" workers are available. In part, these choices reflect differences in productivity or trainability, but in part the decisions are simply a matter of tradition. The correlation between educational attainment and occupational status is not perfect. The theory indicates, however, that employers have a decided preference for certain kinds of workers, and often this preference is based strongly on educational attainment.

In the model, parameters represent the attractiveness of workers with various amounts of education, to primary and secondary manufacturing and service employers. These parameter values are essentially arbitrary,

```
U.K=(LF.K-J.K)/LF.K                                          170, A
    U       - UNEMPLOYMENT (PERCENT)
    LF      - LABOR FORCE (PEOPLE)
    J       - JOBS (JOBS)

RU.K=U.K/UN                                                  171, A
UN=.05                                                       171.1, C
    RU      - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)
    U       - UNEMPLOYMENT (PERCENT)
    UN      - UNEMPLOYMENT NORMAL (PERCENT)

RUP.K=RUP.J+(DT)(RU.J-RUP.J)/RUPT                            172, L
RUP=RUPN                                                     172.1, N
RUPN=1                                                       172.2, C
RUPT=3                                                       172.3, C
    RUP     - RELATIVE UNEMPLOYMENT PERCEIVED (PERCENT)
    RU      - RELATIVE UNEMPLOYMENT (DIMENSIONLESS)
    RUPT    - RELATIVE UNEMPLOYMENT PERCEPTION TIME
              (YEARS)
    RUPN    - RELATIVE UNEMPLOYMENT PERCIEVED INITIAL
              (PERCENT)
```

although their relative magnitudes correspond to the qualitative hypotheses of the theory. The relative educational attractiveness of the labor force in Massachusetts, to primary and secondary employers, is determined by dividing the attractiveness of the Massachusetts labor force to these employers by the normal attractiveness in the United States.[1]

Wage Sector

The dual labor market theory posits a substantial gap in wages and productivity between the primary and secondary markets; the theory says little, however, about the factors responsible for wage changes within each sector. According to the theory, investment in technology and training in the primary sector leads to high productivity and high wages, which attract well-educated employees, thus encouraging investment. It is reasonable to believe that in a state with a greater-than-usual proportion of primary jobs, the general productivity of workers will be unusually high, because the gains from on-the-job training and technology will "spill-over" from industry to industry; consequently, wages in both primary and secondary sectors will be unusually high. Conversely, in a state with a preponderance of secondary jobs, the general productivity of workers will be unusually low, and the wages in both sectors will be low.

It is also reasonable to expect that secondary job wages will fall in a state with high rates of unemployment, because the unemployed might compete for marginal jobs, driving down the wage. The existence of large

---

[1] Because the overall educational attainment of the American population is rising, and this rise is explicitly included in the model, it is not possible to assume constant educational attractiveness normals. The normals for this version of the model are the educational attractiveness values obtained during a model run with all education elasticities of job growth set equal to zero (0). These values are included as "table" functions of time in the model; consequently, during the standard model run, the relative educational attractiveness equals one (1) for both primary and secondary labor markets.

```
EALPM.K=(CGMLF.K*ACGMPM+CGWLF.K*ACGWPM+SCMLF.K*          173, A
  ASCMPM+SCWLF.K*ASCWPM+OGMLF.K*AOGMPM+OGWLF.K*
  AOGWPM+HGMLF.K*AHGMPM+HGWLF.K*AHGWPM+HOMLF.K*
  AHOMPM+HOWLF.K*AHOWPM)/LF.K
ACGMPM=1                                                 173.3, C
ACGWPM=.9                                                173.4, C
ASCMPM=.9                                                173.5, C
ASCWPM=.8                                                173.6, C
AOGMPM=.6                                                173.7, C
AOGWPM=.5                                                173.8, C
AHGMPM=.6                                                173.9, C
    EALPM  - EDUC ATTRACTIVENESS OF LF TO PRIMARY MFG
               EMPLOYERS (UNITS)
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    ACGMPM - ATTRACTIVENESS OF CG MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    CGWLF  - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    ACGWPM - ATTRACTIVENESS OF CG WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    ASCMPM - ATTRACTIVENESS OF SC MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    SCWLF  - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    ASCWPM - ATTRACTIVENESS OF SC WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    AOGMPM - ATTRACTIVENESS OF OG MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    OGWLF  - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    AOGWPM - ATTRACTIVENESS OF OG WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    AHGMPM - ATTRACTIVENESS OF HG MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    HGWLF  - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    AHGWPM - ATTRACTIVENESS OF HG WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    AHOMPM - ATTRACTIVENESS OF HO MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    HOWLF  - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    AHOWPM - ATTRACTIVENESS OF HO WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    LF     - LABOR FORCE (PEOPLE)

AHGWPM=.5                                                174, C
AHOMPM=0                                                 174.1, C
AHOWPM=0                                                 174.2, C
    AHGWPM - ATTRACTIVENESS OF HG WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    AHOMPM - ATTRACTIVENESS OF HO MEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
    AHOWPM - ATTRACTIVENESS OF HO WOMEN TO PRIMARY MFG
               EMPLOYERS (UNITS)
```

```
EALPS.K=(CGMLF.K*ACGMPS+CGWLF.K*ACGWPS+SCMLF.K*      175, A
  ASCMPS+SCWLF.K*ASCWPS+OGMLF.K*AOGMPS+OGWLF.K*
  AOGWPS+HGMLF.K*AHGMPS+HGWLF.K*AHGWPS+HOMLF.K*
  AHOMPS+HOWLF.K*AHOWPS)/LF.K
ACGMPS=1                                             175.3, C
ACGWPS=.9                                            175.4, C
ASCMPS=.9                                            175.5, C
ASCWPS=.8                                            175.6, C
AOGMPS=.6                                            175.7, C
AOGWPS=.5                                            175.8, C
AHGMPS=.6                                            175.9, C
    EALPS  - EDUC ATTRACTIVENESS OF LF TO PRIMARY SVC
               EMPLOYERS (UNITS)
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    ACGMPS - ATTRACTIVENESS OF CG MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    CGWLF  - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    ACGWPS - ATTRACTIVENESS OF CG WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    ASCMPS - ATTRACTIVENESS OF SC MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    SCWLF  - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    ASCWPS - ATTRACTIVENESS OF SC WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    AOGMPS - ATTRACTIVENESS OF OG MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    OGWLF  - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    AOGWPS - ATTRACTIVENESS OF OG WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    AHGMPS - ATTRACTIVENESS OF HG MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    HGWLF  - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    AHGWPS - ATTRACTIVENESS OF HG WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    AHOMPS - ATTRACTIVENESS OF HO MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    HOWLF  - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    AHOWPS - ATTRACTIVENESS OF HO WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    LF     - LABOR FORCE (PEOPLE)

AHGWPS=.5                                            176, C
AHOMPS=0                                             176.1, C
AHOWPS=0                                             176.2, C
    AHGWPS - ATTRACTIVENESS OF HG WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    AHOMPS - ATTRACTIVENESS OF HO MEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
    AHOWPS - ATTRACTIVENESS OF HO WOMEN TO PRIMARY SVC
               EMPLOYERS (UNITS)
```

```
EALSM.K=(CGMLF.K*ACGMSM+CGWLF.K*ACGWSM+SCMLF.K*      177, A
  ASCMSM+SCWLF.K*ASCWSM+OGMLF.K*AOGMSM+OGWLF.K*
  AOGWSM+HGMLF.K*AHGMSM+HGWLF.K*AHGWSM+HOMLF.K*
  AHOMSM+HOWLF.K*AHOWSM)/LF.K
ACGMSM=0                                             177.3, C
ACGWSM=0                                             177.4, C
ASCMSM=.3                                            177.5, C
ASCWSM=.3                                            177.6, C
AOGMSM=1                                             177.7, C
AOGWSM=.9                                            177.8, C
AHGMSM=1                                             177.9, C
    EALSM  - EDUC ATTRACTIVENESS OF LF TO SECONDARY MFG
               EMPLOYERS (UNITS)
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    ACGMSM - ATTRACTIVENESS OF CG MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    CGWLF  - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    ACGWSM - ATTRACTIVENESS OF CG WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    ASCMSM - ATTRACTIVENESS OF SC MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    SCWLF  - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    ASCWSM - ATTRACTIVENESS OF SC WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    AOGMSM - ATTRACTIVENESS OF OG MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    OGWLF  - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    AOGWSM - ATTRACTIVENESS OF OG WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    AHGMSM - ATTRACTIVENESS OF HG MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    HGWLF  - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    AHGWSM - ATTRACTIVENESS OF HG WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    AHOMSM - ATTRACTIVENESS OF HO MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    HOWLF  - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    AHOWSM - ATTRACTIVENESS OF HO WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    LF     - LABOR FORCE (PEOPLE)

AHGWSM=.9                                            178, C
AHOMSM=.8                                            178.1, C
AHOWSM=.7                                            178.2, C
    AHGWSM - ATTRACTIVENESS OF HG WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    AHOMSM - ATTRACTIVENESS OF HO MEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
    AHOWSM - ATTRACTIVENESS OF HO WOMEN TO SECONDARY MFG
               EMPLOYERS (UNITS)
```

```
EALSS.K=(CGMLF.K*ACGMSS+CGWLF.K*ACGWSS+SCMLF.K*      179, A
  ASCMSS+SCWLF.K*ASCWSS+OGMLF.K*AOGMSS+OGWLF.K*
  AOGWSS+HGMLF.K*AHGMSS+HGWLF.K*AHGWSS+HOMLF.K*
  AHOMSS+HOWLF.K*AHOWSS)/LF.K
ACGMSS=0                                             179.3, C
ACGWSS=0                                             179.4, C
ASCMSS=.3                                            179.5, C
ASCWSS=.3                                            179.6, C
AOGMSS=1                                             179.7, C
AOGWSS=.9                                            179.8, C
AHGMSS=1                                             179.9, C
    EALSS  - EDUC ATTRACTIVENESS OF LF TO SECONDARY SVC
               EMPLOYERS (UNITS)
    CGMLF  - CG MEN IN THE LABOR FORCE (PEOPLE)
    ACGMSS - ATTRACTIVENESS OF CG MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    CGWLF  - CG WOMEN IN THE LABOR FORCE (PEOPLE)
    ACGWSS - ATTRACTIVENESS OF CG WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    SCMLF  - SC MEN IN THE LABOR FORCE (PEOPLE)
    ASCMSS - ATTRACTIVENESS OF SC MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    SCWLF  - SC WOMEN IN THE LABOR FORCE (PEOPLE)
    ASCWSS - ATTRACTIVENESS OF SC WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    OGMLF  - OG MEN IN THE LABOR FORCE (PEOPLE)
    AOGMSS - ATTRACTIVENESS OF OG MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    OGWLF  - OG WOMEN IN THE LABOR FORCE (PEOPLE)
    AOGWSS - ATTRACTIVENESS OF OG WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    HGMLF  - HG MEN IN THE LABOR FORCE (PEOPLE)
    AHGMSS - ATTRACTIVENESS OF HG MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    HGWLF  - HG WOMEN IN THE LABOR FORCE (PEOPLE)
    AHGWSS - ATTRACTIVENESS OF HG WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    HOMLF  - HO MEN IN THE LABOR FORCE (PEOPLE)
    AHOMSS - ATTRACTIVENESS OF HO MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    HOWLF  - HO WOMEN IN THE LABOR FORCE (PEOPLE)
    AHOWSS - ATTRACTIVENESS OF HO WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    LF     - LABOR FORCE (PEOPLE)

AHGWSS=.9                                            180, C
AHOMSS=.8                                            180.1, C
AHOWSS=.7                                            180.2, C
    AHGWSS - ATTRACTIVENESS OF HG WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    AHOMSS - ATTRACTIVENESS OF HO MEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
    AHOWSS - ATTRACTIVENESS OF HO WOMEN TO SECONDARY SVC
               EMPLOYERS (UNITS)
```

```
REALPM.K=EALPM.K/EALPMUS.K                                    181, A
    REALPM - RELATIVE EDUC ATTR OF LF TO PRIMARY MFG
             EMPLOYERS (DMNLS)
    EALPM  - EDUC ATTRACTIVENESS OF LF TO PRIMARY MFG
             EMPLOYERS (UNITS)
    EALPMUS- EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS --
             US (UNITS)

REALPS.K=EALPS.K/EALPSUS.K                                    182, A
    REALPS - RELATIVE EDUC ATTR OF LF TO PRIMARY SVC
             EMPLOYERS (DMNLS)
    EALPS  - EDUC ATTRACTIVENESS OF LF TO PRIMARY SVC
             EMPLOYERS (UNITS)
    EALPSUS- EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS --
             US (UNITS)

REALSM.K=EALSM.K/EALSMUS.K                                    183, A
    REALSM - RELATIVE EDUC ATTR OF LF TO SECONDARY MFG
             EMPLOYERS (DMNLS)
    EALSM  - EDUC ATTRACTIVENESS OF LF TO SECONDARY MFG
             EMPLOYERS (UNITS)
    EALSMUS- EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS
             -- US (UNITS)

REALSS.K=EALSS.K/EALSSUS.K                                    184, A
    REALSS - RELATIVE EDUC ATTR OF LF TO SECONDARY SVC
             EMPLOYERS (DMNLS)
    EALSS  - EDUC ATTRACTIVENESS OF LF TO SECONDARY SVC
             EMPLOYERS (UNITS)
    EALSSUS- EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS
             -- US (UNITS)

EALPMUS.K=TABLE(ELPMUST,TIME.K,1960,2000,10)                  185, A
ELPMUST=.285/.330/.373/.406/.433                              185.1, T
    EALPMUS- EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS --
             US (UNITS)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    ELPMUST- EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS --
             US TABLE
    TIME   - CALENDAR TIME (YEARS)

EALPSUS.K=TABLE(ELPSUST,TIME.K,1960,2000,10)                  186, A
ELPSUST=.285/.330/.373/.406/.433                              186.1, T
    EALPSUS- EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS --
             US (UNITS)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    ELPSUST- EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS --
             US TABLE
    TIME   - CALENDAR TIME (YEARS)
```

```
EALSMUS.K=TABLE(ELSMUST,TIME.K,1960,2000,10)          187, A
ELSMUST=.610/.566/.546/.530/.514                      187.1, T
    EALSMUS- EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS
             -- US (UNITS)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    ELSMUST- EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS
             -- US TABLE
    TIME   - CALENDAR TIME (YEARS)

EALSSUS.K=TABLE(ELSSUST,TIME.K,1960,2000,10)          188, A
ELSSUST=.610/.566/.546/.530/.514                      188.1, T
    EALSSUS- EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS
             -- US (UNITS)
    TABLE  - LOGICAL FUNCTION, TABLE LOOK UP AND
             INTERPOLATION
    ELSSUST- EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS
             -- US TABLE
    TIME   - CALENDAR TIME (YEARS)
```

numbers of unemployed is unlikely to effect the primary job wage, however, because the wage in the primary sector depends essentially on a stable network of production relations including seniority and union contracts, which cannot easily be altered (at least in the short run).

In the model, the macro TXJRW (type-"x" job relative wage) represents the wage structure. The macro appears four times, once for each job sector. The structure is similar to the wage formulation adopted in Hamilton, et al.

In the model, the wage for each sector moves toward a corresponding "target" wage, which is a function of the average wage and (for secondary jobs) the unemployment rate.[1] When the proportion of primary and secondary jobs is normal, the primary wage is $2.25, the secondary wage is $1.50, and the average wage is $2.00. When there is an unusually high proportion of primary jobs, the average wage rises, and this in turn leads to an increase in the target primary and secondary sector wages. Over time, the primary and secondary wages move toward the target, increasing the average wage still further. An unusually low proportion of primary jobs results in a low average wage, leading to low primary and secondary wages.

Occupational Status Sector

The relative occupational status of the labor force in the state is one determinant of population migration rates. Because the occupational categorization in the model is quite broad, however, it is difficult to assign true "status scores" to the job sectors. The Duncan scale of occu-

[1] The wage in the model is essentially the real wage, in 1960 dollars, deflated by general productivity changes after 1960. Secondary workers rarely work regularly -- and thus their average annual income is less than the equivalent of $1.50/hour.

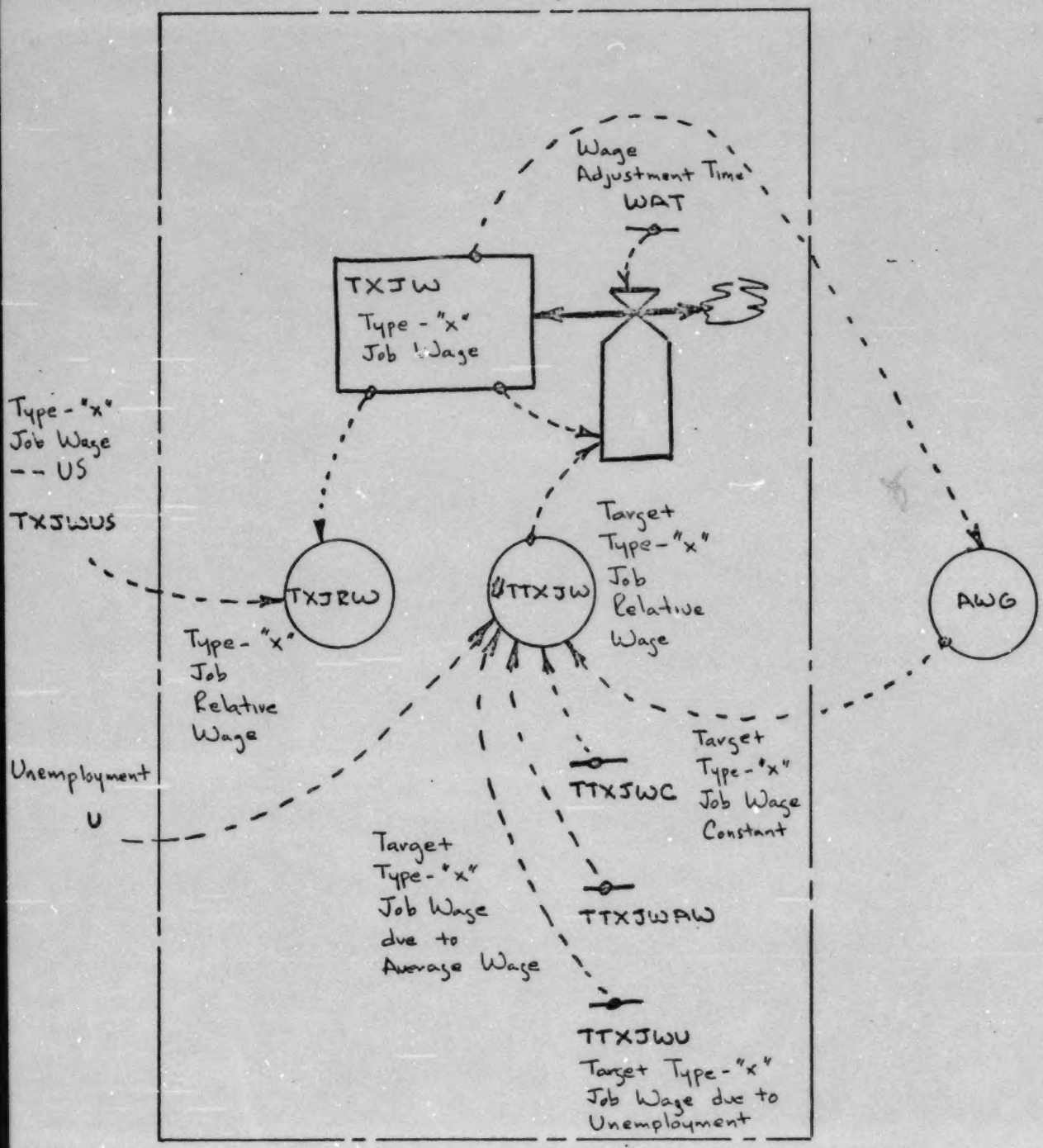

Figure 4-7 Wage Sector -- TXJRW macro function

```
MACRO TXJRW(TTXJWC,TTXJWAW,TTXJWU,TXJW,TXJWN,
  TXJWUS)

STTXJW.K=TTXJWC+TTXJWAW*AWG.K-TTXJWU*U.K                    1, A
    STTXJW - TARGET TYPE-"X" JOB WAGE (DOLLARS)
    TTXJWC - TARGET TYPE-"X" JOB WAGE CONSTANT (DOLLARS)
    TTXJWAW- TARGET TYPE-"X" JOB WAGE DUE TO AVERAGE
               WAGE (DIMENSIONLESS)
    AWG    - AVERAGE WAGE (DOLLARS)
    TTXJWU - TARGET TYPE-"X" JOB WAGE DUE TO UNEM
               (DOLLARS/PERCENT)
    U      - UNEMPLOYMENT (PERCENT)

TXJW.K=TXJW.J+(DT)($TTXJW.J-TXJW.J)/WAT                     2, L
TXJW=TXJWN                                                  2.1, N
    TXJW   - TYPE-"X" JOB WAGE (DOLLARS)
    STTXJW - TARGET TYPE-"X" JOB WAGE (DOLLARS)
    WAT    - WAGE ADJUSTMENT TIME (YEARS)
    TXJWN  - TYPE-"X" JOB WAGE INTXJIAL (DOLLARS)

TXJRW.K=TXJW.K/TXJWUS.K                                     3, A
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
               WAGE (DIMENSIONLESS)
    TXJW   - TYPE-"X" JOB WAGE (DOLLARS)
    TXJWUS - TYPE-"X" JOB WAGE -- US (DOLLARS)

MEND

WAT=3                                                       .1, C
    WAT    - WAGE ADJUSTMENT TIME (YEARS)
```

```
PMJRW.K=TXJRW(TPMJWC,TPMJWAW,TPMJWU,PMJW.K,PMJWN,      189, A
  PMJWUS.K)
TPMJWC=.9                                              189.1, C
TPMJWAW=.675                                           189.2, C
TPMJWU=0                                               189.3, C
PMJWN=2.25                                             189.4, C
    PMJRW  - PRIMARY MFG JOB RELATIVE WAGE
             (DIMENSIONLESS)
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
             WAGE (DIMENSIONLESS)
    TPMJWC - TARGET PRIMARY MFG JOB WAGE CONSTANT
             (DOLLARS)
    TPMJWAW- TARGET PRIMARY MFG JOB WAGE DUE TO AVG WAGE
             (DIMENSIONLESS)
    TPMJWU - TARGET PRIMARY MFG JOB WAGE DUE TO UNEM
             (DOLLARS/PERCENT)
    PMJW   - PRIMARY MFG JOB WAGE (DOLLARS)
    PMJWN  - PRIMARY MFG JOB WAGE INITIAL (DOLLARS)
    PMJWUS - PRIMARY MFG JOB WAGE -- US (DOLLARS)

PMJWUS.K=2.25                                          190, A
    PMJWUS - PRIMARY MFG JOB WAGE -- US (DOLLARS)

PSJRW.K=TXJRW(TPSJWC,TPSJWAW,TPSJWU,PSJW.K,PSJWN,      191, A
  PSJWUS.K)
TPSJWC=.9                                              191.1, C
TPSJWAW=.675                                           191.2, C
TPSJWU=0                                               191.3, C
PSJWN=2.25                                             191.4, C
    PSJRW  - PRIMARY SVC JOB RELATIVE WAGE
             (DIMENSIONLESS)
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
             WAGE (DIMENSIONLESS)
    TPSJWC - TARGET PRIMARY SVC JOB WAGE CONSTANT
             (DOLLARS)
    TPSJWAW- TARGET PRIMARY SVC JOB WAGE DUE TO AVG WAGE
             (DIMENSIONLESS)
    TPSJWU - TARGET PRIMARY SVC JOB WAGE DUE TO UNEM
             (DOLLARS/PERCENT)
    PSJW   - PRIMARY SVC JOB WAGE (DOLLARS)
    PSJWN  - PRIMARY SVC JOB WAGE INITIAL (DOLLARS)
    PSJWUS - PRIMARY SVC JOB WAGE -- US (DOLLARS)

PSJWUS.K=2.25                                          192, A
    PSJWUS - PRIMARY SVC JOB WAGE -- US (DOLLARS)
```

```
SMJRW.K=TXJRW(TSMJWC,TSMJWAW,TSMJWU,SMJW.K,SMJWN,          193, A
  SMJWUS.K)
TSMJWC=.7875                                               193.1, C
TSMJWAW=.45                                                193.2, C
TSMJWU=3.75                                                193.3, C
SMJWN=1.50                                                 193.4, C
    SMJRW  - SECONDARY MFG JOB RELATIVE WAGE
             (DIMENSIONLESS)
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
             WAGE (DIMENSIONLESS)
    TSMJWC - TARGET SECONDARY MFG JOB WAGE CONSTANT
             (DOLLARS)
    TSMJWAW- TARGET SECONDARY MFG JOB WAGE DUE TO AVG
             WAGE (DIMENSIONLESS)
    TSMJWU - TARGET SECONDARY MFG JOB WAGE DUE TO UNEM
             (DOLLARS/PERCENT)
    SMJW   - SECONDARY MFG JOB WAGE (DOLLARS)
    SMJWN  - SECONDARY MFG JOB WAGE INITIAL (DOLLARS)
    SMJWUS - SECONDARY MFG JOB WAGE -- US (DOLLARS)

SMJWUS.K=1.50                                              194, A
    SMJWUS - SECONDARY MFG JOB WAGE -- US (DOLLARS)

SSJRW.K=TXJRW(TSSJWC,TSSJWAW,TSSJWU,SSJW.K,SSJWN,          195, A
  SSJWUS.K)
TSSJWC=.7875                                               195.1, C
TSSJWAW=.45                                                195.2, C
TSSJWU=3.75                                                195.3, C
SSJWN=1.50                                                 195.4, C
    SSJRW  - SECONDARY SVC JOB RELATIVE WAGE
             (DIMENSIONLESS)
    TXJRW  - **MACRO FUNCTION**  TYPE-"X" JOB RELATIVE
             WAGE (DIMENSIONLESS)
    TSSJWC - TARGET SECONDARY SVC JOB WAGE CONSTANT
             (DOLLARS)
    TSSJWAW- TARGET SECONDARY SVC JOB WAGE DUE TO AVG
             WAGE (DIMENSIONLESS)
    TSSJWU - TARGET SECONDARY SVC JOB WAGE DUE TO UNEM
             (DOLLARS/PERCENT)
    SSJW   - SECONDARY SVC JOB WAGE (DOLLARS)
    SSJWN  - SECONDARY SVC JOB WAGE INITIAL (DOLLARS)
    SSJWUS - SECONDARY SVC JOB WAGE -- US (DOLLARS)

SSJWUS.K=1.50                                              196, A
    SSJWUS - SECONDARY SVC JOB WAGE -- US (DOLLARS)
```

```
AWG.K=(PMJ.K*PMJW.K+PSJ.K*PSJW.K+SMJ.K*SMJW.K+          197, A
  SSJ.K*SSJW.K)/J.K
    AWG     - AVERAGE WAGE (DOLLARS)
    PMJ     - PRIMARY MANUFACTURING JOBS (JOBS)
    PMJW    - PRIMARY MFG JOB WAGE (DOLLARS)
    PSJ     - PRIMARY SERVICE JOBS (JOBS)
    PSJW    - PRIMARY SVC JOB WAGE (DOLLARS)
    SMJ     - SECONDARY MANUFACTURING JOBS (JOBS)
    SMJW    - SECONDARY MFG JOB WAGE (DOLLARS)
    SSJ     - SECONDARY SERVICE JOBS (JOBS)
    SSJW    - SECONDARY SVC JOB WAGE (DOLLARS)
    J       - JOBS (JOBS)
```

pational status ranges from 1 to 100, with professionals scoring in the 90's and unskilled labor scoring in the low teens. Consequently, it seems appropriate to choose 75 as the mean status ranking of primary jobs and 25 as the mean ranking of secondary jobs.

It is arguable that, if a policy succeeds in making all jobs in a state primary jobs, the perceived status of primary jobs in the state relative to primary jobs elsewhere will decline. If this is so, it might in fact be beneficial -- since such an effect would counter the otherwise increasing in-migration.

In the model, the relative occupational status of the state's labor force is computed as the mean status in the state, divided by the mean status in the United States.

```
OS.K=(PMJ.K*SPMJ+PSJ.K*SPSJ+SMJ.K*SSMJ+SSJ.K*SSSJ)/ 198, A
  J.K
SPMJ=75                                                198.1, C
SPSJ=75                                                198.2, C
SSMJ=25                                                198.3, C
SSSJ=25                                                198.4, C
    OS      - OCCUPATIONAL STATUS (STATUS UNITS)
    PMJ     - PRIMARY MANUFACTURING JOBS (JOBS)
    SPMJ    - STATUS OF PRIMARY MFG JOBS (STATUS UNITS)
    PSJ     - PRIMARY SERVICE JOBS (JOBS)
    SPSJ    - STATUS OF PRIMARY SERVICE JOBS (STATUS
              UNITS)
    SMJ     - SECONDARY MANUFACTURING JOBS (JOBS)
    SSMJ    - STATUS OF SECONDARY MFG JOBS (STATUS UNITS)
    SSJ     - SECONDARY SERVICE JOBS (JOBS)
    SSSJ    - STATUS OF SECONDARY SERVICE JOBS (STATUS
              UNITS)
    J       - JOBS (JOBS)

ROS.K=OS.K/OSN.K                                       199, A
    ROS     - RELATIVE OCCUPATIONAL STATUS
              (DIMENSIONLESS)
    OS      - OCCUPATIONAL STATUS (STATUS UNITS)
    OSN     - OCCUPATIONAL STATUS NORMAL (STATUS UNITS)

OSN.K=FPMJUS*SPMJUS+FPSJUS*SPSJUS+FSMJUS*SSMJUS+       200, A
  FSSJUS*SSSJUS
FPMJUS=.3333                                           200.1, C
FPSJUS=.3333                                           200.2, C
FSMJUS=.1666                                           200.3, C
FSSJUS=.1666                                           200.4, C
SPMJUS=75                                              200.5, C
SPSJUS=75                                              200.6, C
SSMJUS=25                                              200.7, C
SSSJUS=25                                              200.8, C
    OSN     - OCCUPATIONAL STATUS NORMAL (STATUS UNITS)
    FPMJUS  - FRACTION OF PRIMARY MFG JOBS -- US
              (PERCENT)
    SPMJUS  - STATUS OF PRIMARY MFG JOBS -- US (STATUS
              UNITS)
    FPSJUS  - FRACTION OF PRIMARY SERVICE JOBS -- US
              (PERCENT)
    SPSJUS  - STATUS OF PRIMARY SERVICE JOBS -- US
              (STATUS UNITS)
    FSMJUS  - FRACTION OF SECONDARY MFG JOBS -- US
              (PERCENT)
    SSMJUS  - STATUS OF SECONDARY MFG JOBS -- US (STATUS
              UNITS)
    FSSJUS  - FRACTION OF SECONDARY SERVICE JOBS -- US
              (PERCENT)
    SSSJUS  - STATUS OF SECONDARY SERVICE JOBS -- US
              (STATUS UNITS)
```

V. Model Behavior

The purpose of formulating a mathematical model is to gain understanding of the behavior associated with a structure. The model developed in the preceding section generates a forty year time history. During the simulation, the period 1960-2000 is traversed in one-year intervals, beginning with the given initial conditions. The values of the system levels at the beginning of an interval determine the values taken by the system rates during the interval. The values of the rates during one interval, in turn, determine the changes in the values of the levels from that interval to the next. It should be emphasized that all changes in system levels are determined by rates, and that all rates are determined by system levels: the model is "self-regulating."

The curves in the graphs which follow are computer plots showing the behavior of selected system variables as generated through time by the simulation model. The horizontal axis is a time scale, starting with the year 1960 and continuing for the next forty years. At the left margin is a line giving the plotting symbols. For example, in figure 5-1a, the letter "P" on the graph indicates the primary jobs variable. The vertical scales at the left of each plot are marked at the top with the symbols to which they apply. For example, the scale neares the graph, ranging from 0 to .1, refers to U, the unemployment variable. The letter T following numerical scale values means thousands. Whenever two lines on the graph

cross, the symbol for only one of the variables is printed on the graph; that symbol and the others not shown appear above the crossing point at the top of the graph.

Printed tables give numerical values for the plotted variables and for selected variables not plotted. The printed values appear in blocks. The left column indicates the time associated with the blocks. The letter groups at the head of each table give the symbol identifications of the variables. Scaling factors are printed below the letter groupings. An alphabetical list of variable names and definitions is given in the Appendix.

The computer plots for the standard model simulation are given in figures 5-1a and 5-1b. The behavior is rather straightforward: primary and secondary jobs rise throughout the 40 year period, maintaining their relative shares of the labor market. The population grows at a slowing rate. The relative wage, educational attractiveness, and occupational status variables all persist approximately equal to unity, and the unemployment rate falls slightly.

This fall in unemployment rate is due to the population migration formulation. As the empirical evidence indicates, there is a net out-migration from states experiencing unemployment rates equal to the national mean. The initial 1960 unemployment rate in Massachusetts was set equal to .05 in the model, and it drifts down to about .04 as the out-migration diminishes the size of the labor force. The small variations in the relative wages are due to changes in the unemployment rate.

The standard run is, of course, unsurprising -- the model was constructed in such a way that the primary and secondary markets grow evenly.

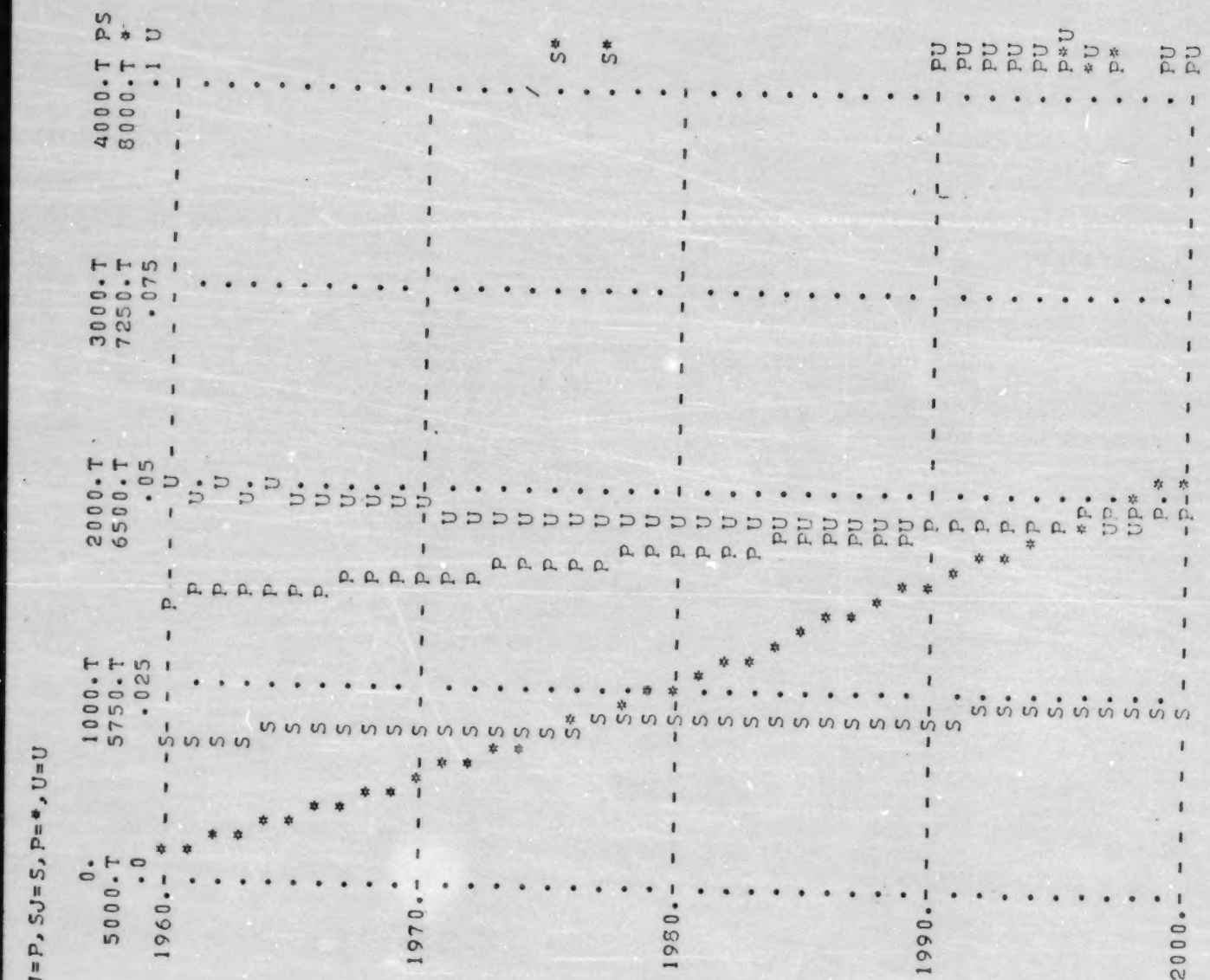

Figure 5-1a Standard Model

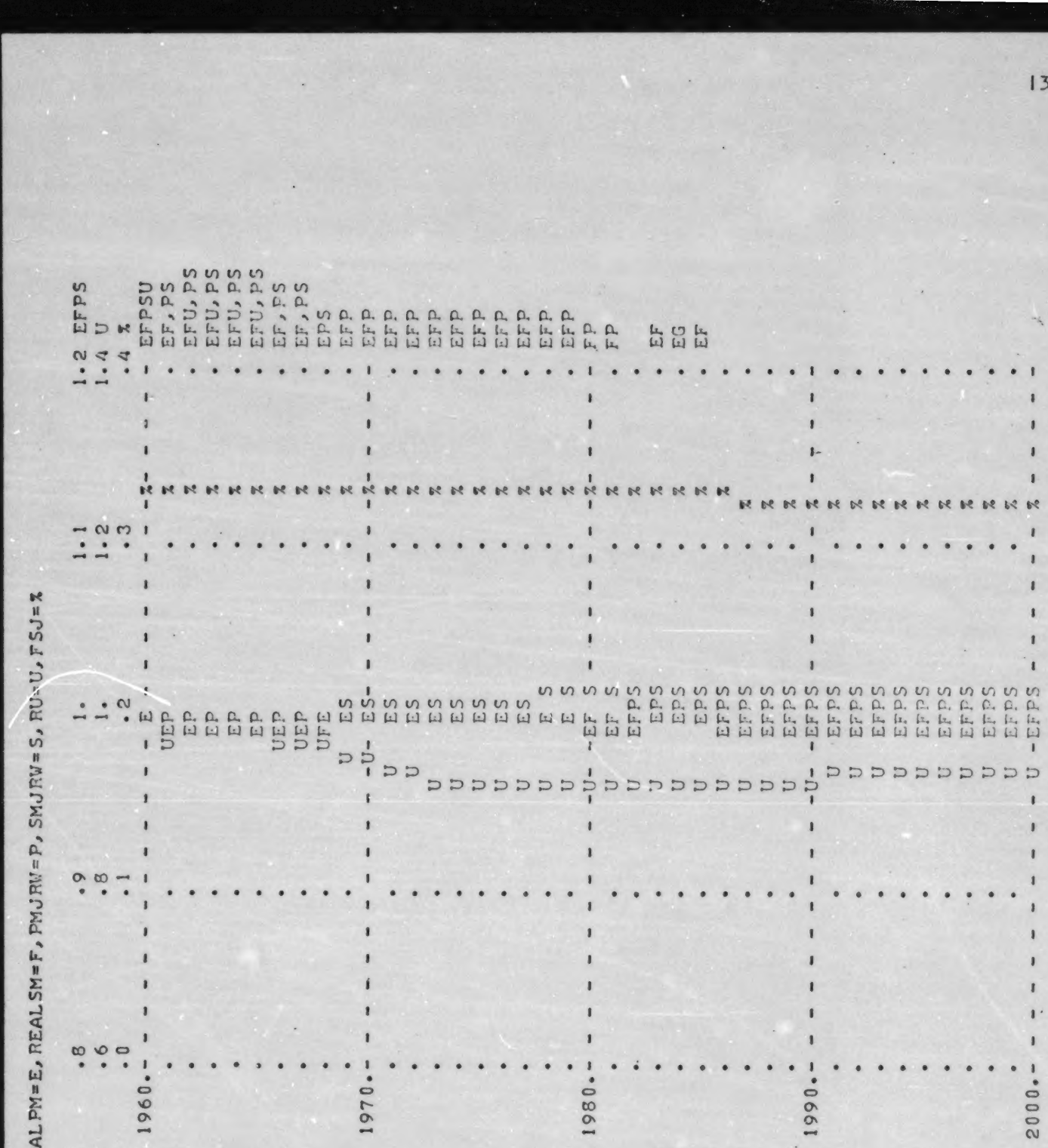
REALPM=E, REALSM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=%
1.2 EFPS
1.4 U
.4 %
1960
1970
1980
1990
2000

Figure 5-1b

TIME	P M W	PMJ PSJ SMJ SSJ OS ROS	REALPM REALPS REALSM REALSS	PMJRW PSJRW SMJRW SSJRW	LF J U RU	CGMMS SCMLS OGMLS HGMLS HOMLS CGWLS SCWLS OGWLS HGWLS HOWLS	CGM SCM OGM HGM HOM CGW SCW OGW HGW HOW
E+00	E+03 E+03 E+03	E+03 E+03 E+03 E+03 E+00 E+00	E+00 E+00 E+00 E+00	E+00 E+00 E+00 E+00	E+03 E+03 E-03 E+00	E+03 E+00 E+00 E+03 E+03 E+03 E+00 E+00 E+03 E+03	E+03 E+03 E+03 E+03 E+03 E+03 E+03 E+03 E+03 E+03
1960.	5117.3 1368.0 1368.0	705.35 705.35 352.68 352.68 58.333 1.0001	1.0009 1.0009 .9994 .9994	1.0000 1.0000 1.0000 1.0000	2227.4 2116.1 49.997 .99993	8.447 5610.6 1706.2 10.601 8.966 8.447 5610.6 1706.2 10.601 8.966	126.00 126.00 36.000 360.00 720.00 126.00 126.00 36.000 360.00 720.00
1970.	5400.5 1449.8 1449.8	771.85 771.85 385.08 385.08 58.358 1.0006	.9991 .9991 1.0010 1.0010	1.0006 1.0006 1.0048 1.0048	2429.1 2313.9 47.428 .94856	11.132 7407.6 2253.9 14.004 11.837 11.132 7407.6 2253.9 14.004 11.837	189/16 158.75 46.634 395.83 659.46 189.17 158.75 46.634 395.83 659.46
1980.	5769.5 1573.5 1573.5	844.31 844.31 414.54 414.54 58.535 1.0036	.9949 .9949 1.0029 1.0029	1.0034 1.0034 1.0135 1.0135	2638.7 2517.7 45.865 .91730	12.008 7919.2 2289.8 14.370 11.943 12.008 7919.2 2289.8 14.370 11.943	251/96 193.51 57/329 440.46 630.27 251.96 193.51 57.329 440.46 630.27

Figure 5-1c

TIME	P M W	PMJ PSJ SMJ SSJ OS ROS	REALPM REALPS REALSM REALSS	PMJRW PSJRW SMJRW SSJRW	LF J U RU	CGMLS SCMLS OGMLS HGMLS HOMLS CGWMS SCWLS OGWLS HGWLS HOWLS	CGM SCM OGM HGM HOM CGW SCW OGW HGW HOW
1990.	6173.6	909.31	.9932	1.0063	2827.9	13.281	311/71
	1694.5	909.31	.9932	1.0063	2696.7	8649.2	226.98
	1694.5	439.03	1.0023	1.0159	46.420	2323.0	66.220
		439.03	1.0023	1.0159	.92840	14.798	480.39
		58.720				12.003	609.23
		1.0068				13.281	311.71
						8649.2	226.98
						2323.0	66.220
						14.798	480.39
						12.003	609.23
2000.	6571.1	969.24	.9933	1.0079	3004.4	14.732	371.16
	1810.7	969.24	.9933	1.0079	2862.3	9471.8	260.26
	1810.7	461.93	1.0034	1.0154	47.288	2355.0	73.422
		461.93	1.0034	1.0154	.94577	15.253	515.05
		58.862				12.056	590.81
		1.0092				14.732	371.16
						9571.8	260.26
						2355.0	73.422
						15.253	515.05
						12.056	590.81

Figure 5-1d

A more interesting experiment involves altering the normal growth rate parameters of one job sector so that the normal primary and secondary growth rates are no longer equal. Figures 5-2a and 5-2b indicate the model behavior when the normal primary job growth rate is augmented by a .5% decline in primary jobs per year, beginning in 1965. In the run, the growth of primary jobs is somewhat depressed, and the growth of secondary jobs is somewhat increased. There is a slight fall in the educational attractiveness of the labor force to primary employers, and a compensating decrease in wages. At the same time, there is an increase in the attractiveness of the labor force to secondary employers. Altogether, the result is not too different from the basic run -- indicating that a rather substantial change in the normal primary job growth rate does not have a very significant effect on the characteristics of the labor market.

In figures 5-3a and 5-3b, the effects of a .5% per year increase in the normal primary job growth rate, beginning in 1965, are examined. In the run, the growth of primary jobs is improved, and the growth of secondary jobs is a bit depressed. By the year 2000, the fraction of secondary jobs falls to about 28%, from 33% in 1960. Both primary and secondary wages increase, but the educational attractiveness of the labor force remains essentially unchanged. As before, the result is not too different from the basic run. The largest change is an increase of about 400,000 in the total population by the year 2000, due to in-migration.

Several experimental policies have been tested in an attempt to understand their effects on labor market composition. The first of these is an occupational education program which provides one-third of the normal high school dropouts with an occupational school education each year. This,

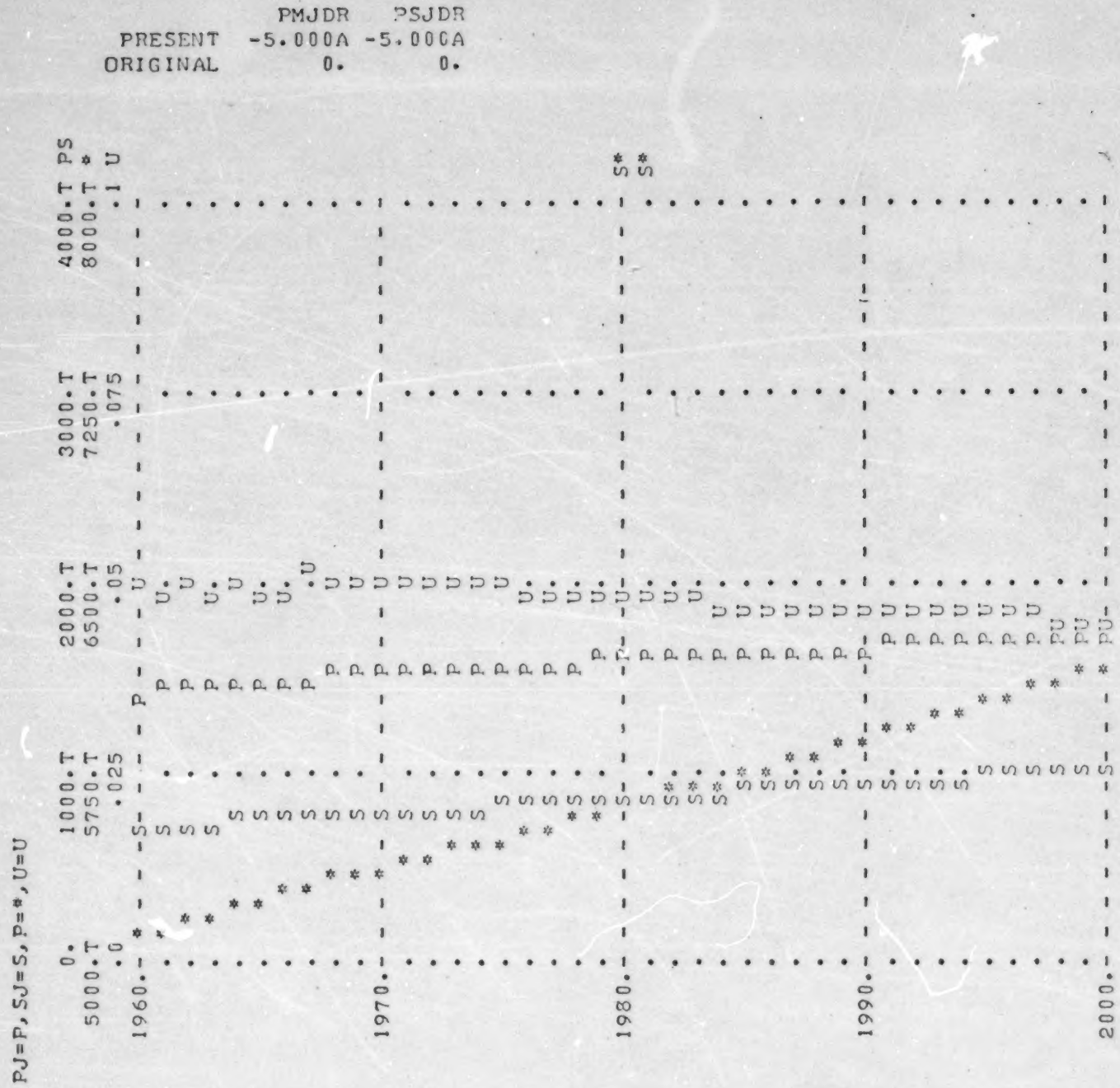

Figure 5-2a Primary Job Decline

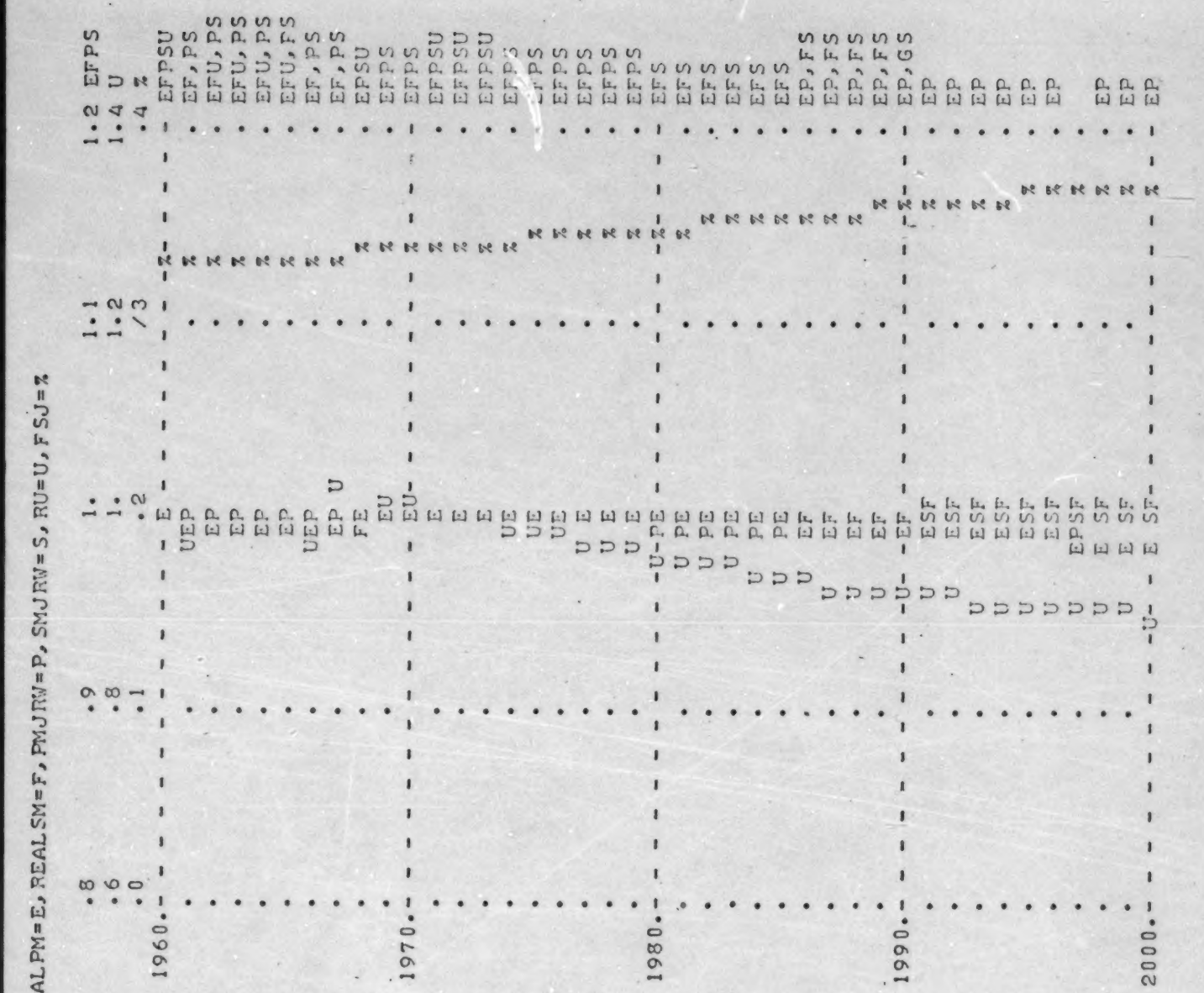
REALPM=E, REALSM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=%
1.2 EFPS
1.4 U
.4 %
1.1
1.2
/3
1.
.9
.8
.1
.8
.6
.0
1960.
1970.
1980.
1990.
2000.

Figure 5-2b

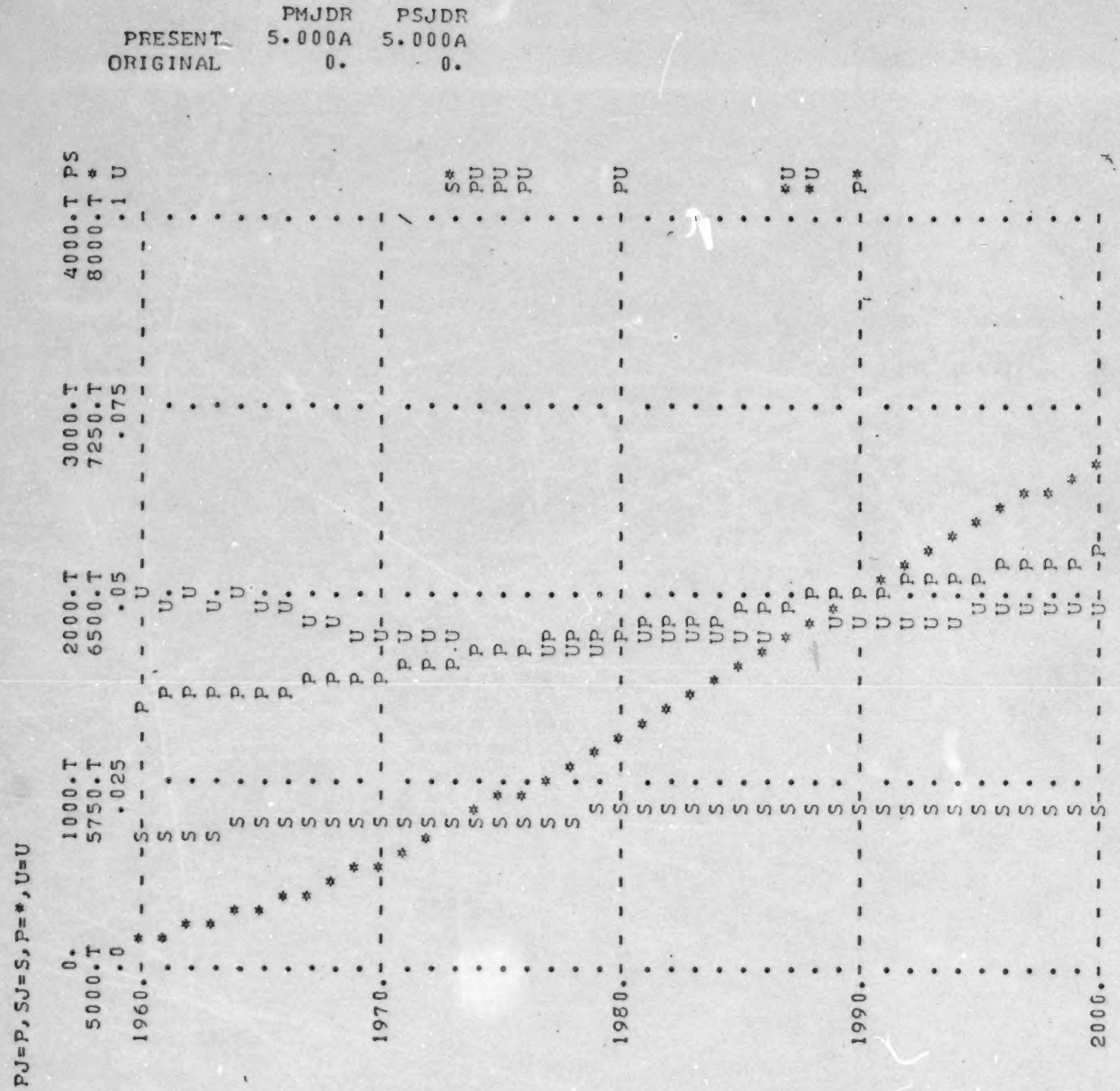

Figure 5-3a Primary Job Growth

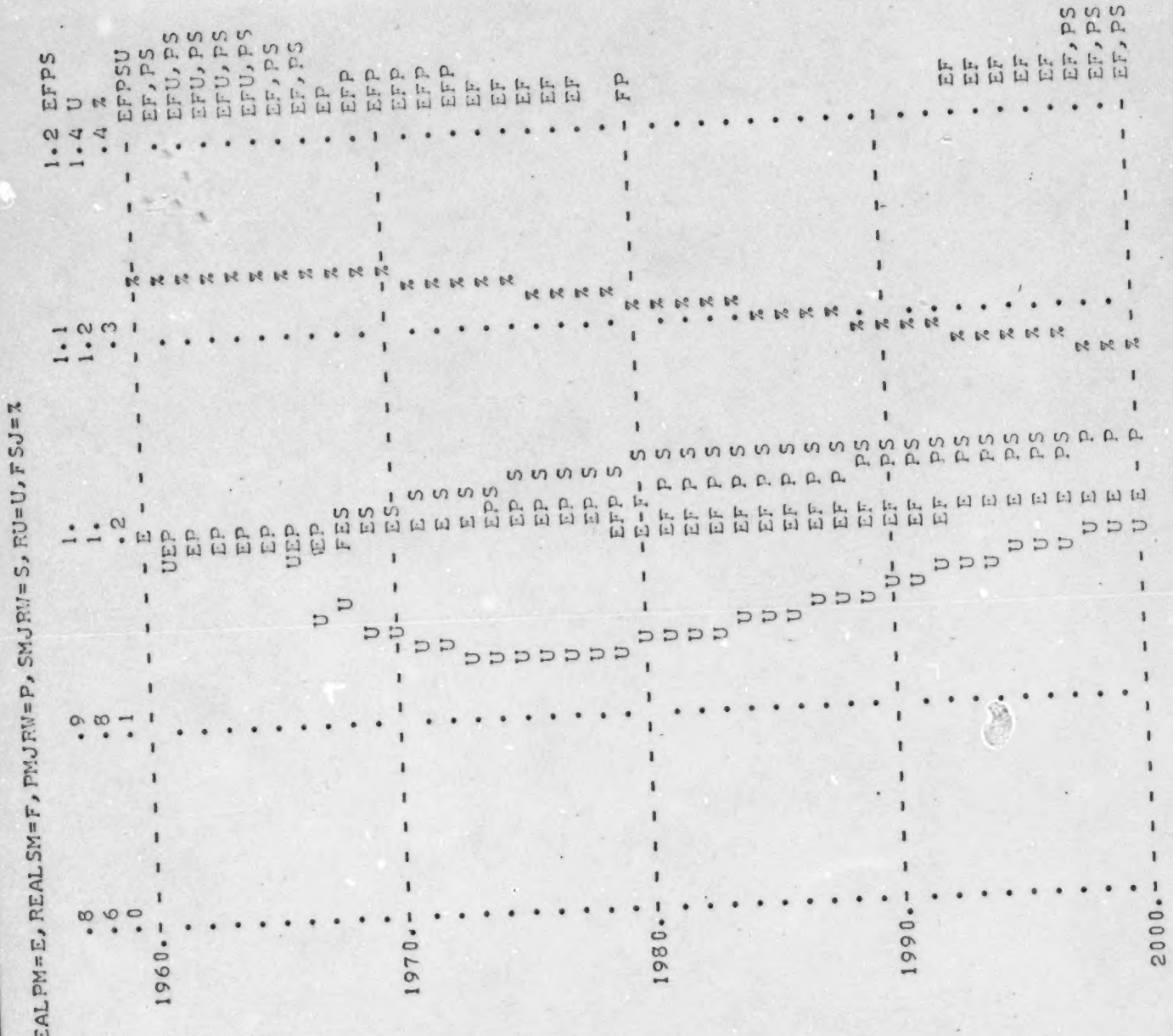
REALPM=E, REALSM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=Z
1.2 EFPS
1.4 U
.4 Z
1.1
1.2
.3
1.
1.
.2
.9
.8
.1
.8
.6
.0
1960.
1970.
1980.
1990.
2000.

Figure 5-3b

of course, would be a difficult and perhaps costly program to implement; for purposes of this test, however, it is assumed that the program is implemented in 1965 and that is is effective in providing potential dropouts with an occupational school education.

As figures 5-4a and 5-4b indicate, the program has a significant but not dramatic beneficial effect on labor market composition. By the year 2000, the primary job share has risen from 66% to 74%, and the secondary share has fallen from 33% to 26%. Interestingly, the program has almost no effect on job composition whatever until 1974, nearly ten years after it is implemented, and it has no real effect until the late 1980's. This is largely due to the fact that the educational attractiveness of the population must rise significantly before it can influence primary job growth. An increase in the educational attainment of members of the population will have no effect on the existence of poverty in the state unless the increase is felt in the primary-secondary job balance.

It is also interesting that the total population in the experiment grows to over 7 million by the year 2000 -- a figure over 500,000 greater than the total in the standard run. This is due to the improved relative occupational status and favorable unemployment rate. The possible detrimental effects of crowding are not included in this model; any consideration of social policy, however, would have to take such effects into account.

The outcome of the occupational education experiment suggests that a favorable policy might require direct intervention in the labor market, in an effort to work with employers and workers, through on-the-job training and reorganization of work, to convert secondary to primary jobs. This policy has been proposed by a number of dual market theorists. The policy

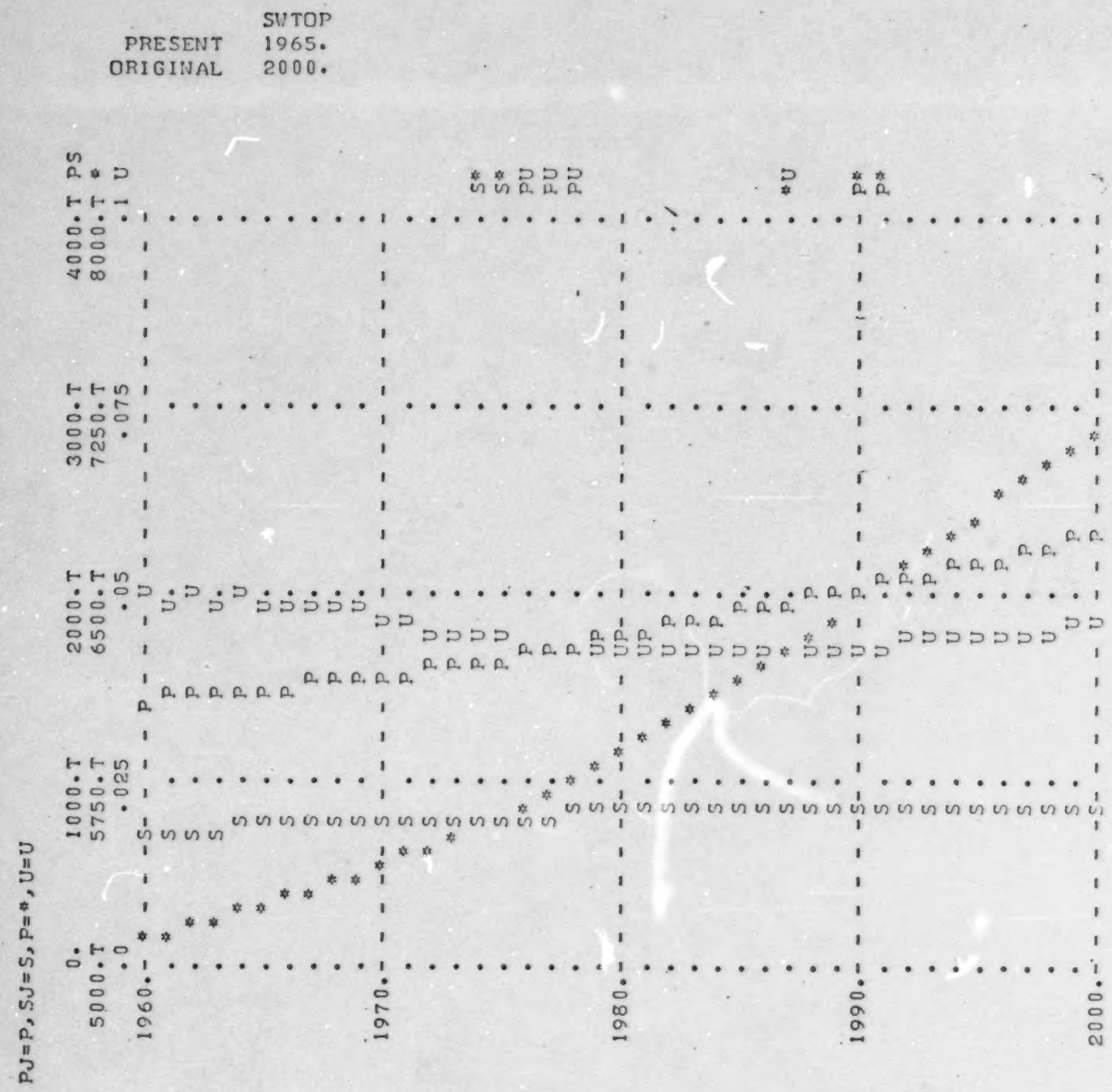

Figure 5-4a Occupational Education Program

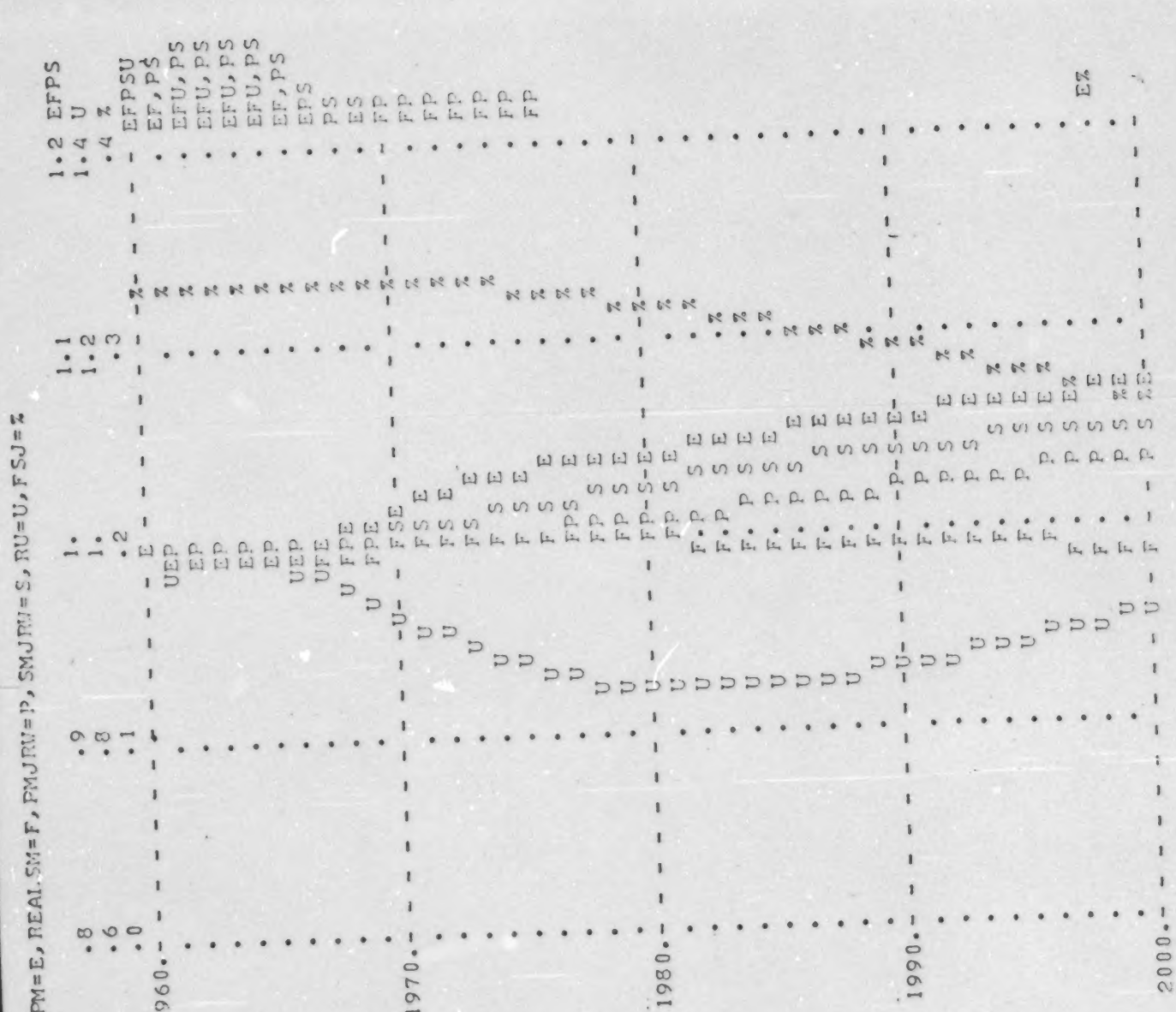
REAL.PM=E, REAL.SM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=%
1.2 EFPS
1.4 U
.4 %
1.1
1.2
.3
1.
1.
.2
.9
.8
.1
.8
.6
.0
1960.
1970.
1980.
1990.
2000.

Figure 5-4b

has been tested in the model by moving 3% per year of the jobs in the secondary sector to the primary sector, beginning in 1965. This would no doubt be an extremely difficult policy to implement. Here, a test is made of such a policy's effects on the assumption that it can be successfully carried out. Figures 5-5a and 5-5b indicate the results of the experiment.

As can be seen, by the year 2000, the job share of the primary market is about 90%, while that of the secondary market is about 10%. This is indeed a dramatic improvement. The unemployment rate rises somewhat in the process, and this has the effect of reducing the population in-migration that would otherwise occur due to the improved occupational situation. The improved occupational status does increase the in-migration of highly-educated adults, which enhances the relative attractiveness of the labor force to primary employers, somewhat compensating for the rise in wages which is the consequence of the changing job mix.

A final policy experiment combines a 1% per year direct conversion of secondary to primary jobs with the occupational education program discussed earlier. The results are indicated in figures 5-6a and 5-6b.

These policy tests should be considered as model experiments. They are not recommendations for action. At this stage, the model is a laboratory in which hypotheses can be tested. Many model experiments must be evaluated; evidence must be compared with model behavior; important parameters must be revised to conform more nearly to the developing empirical theory. These are matters which will be considered in the concluding section of this essay.

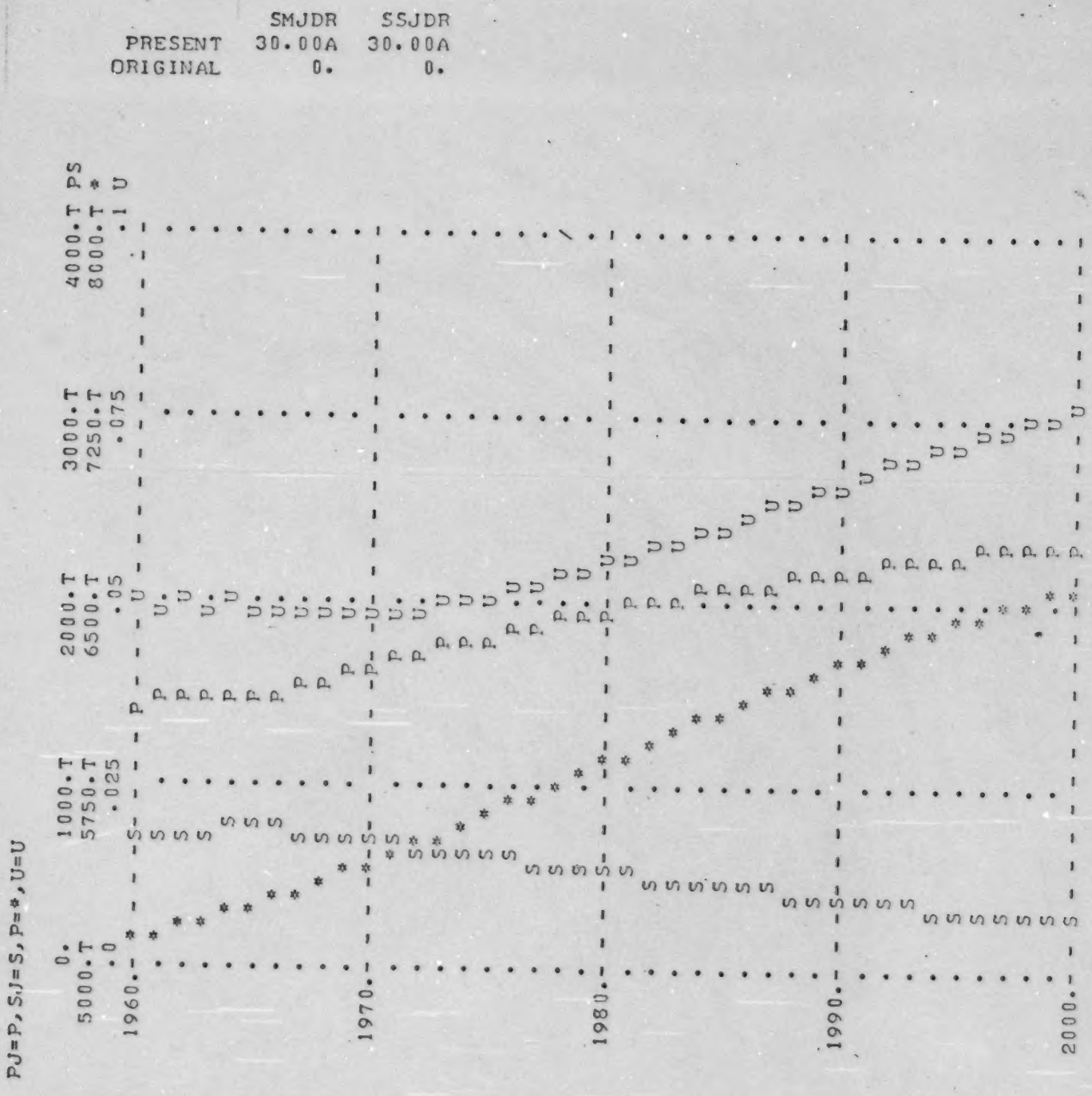

Figure 5-5a Job Program

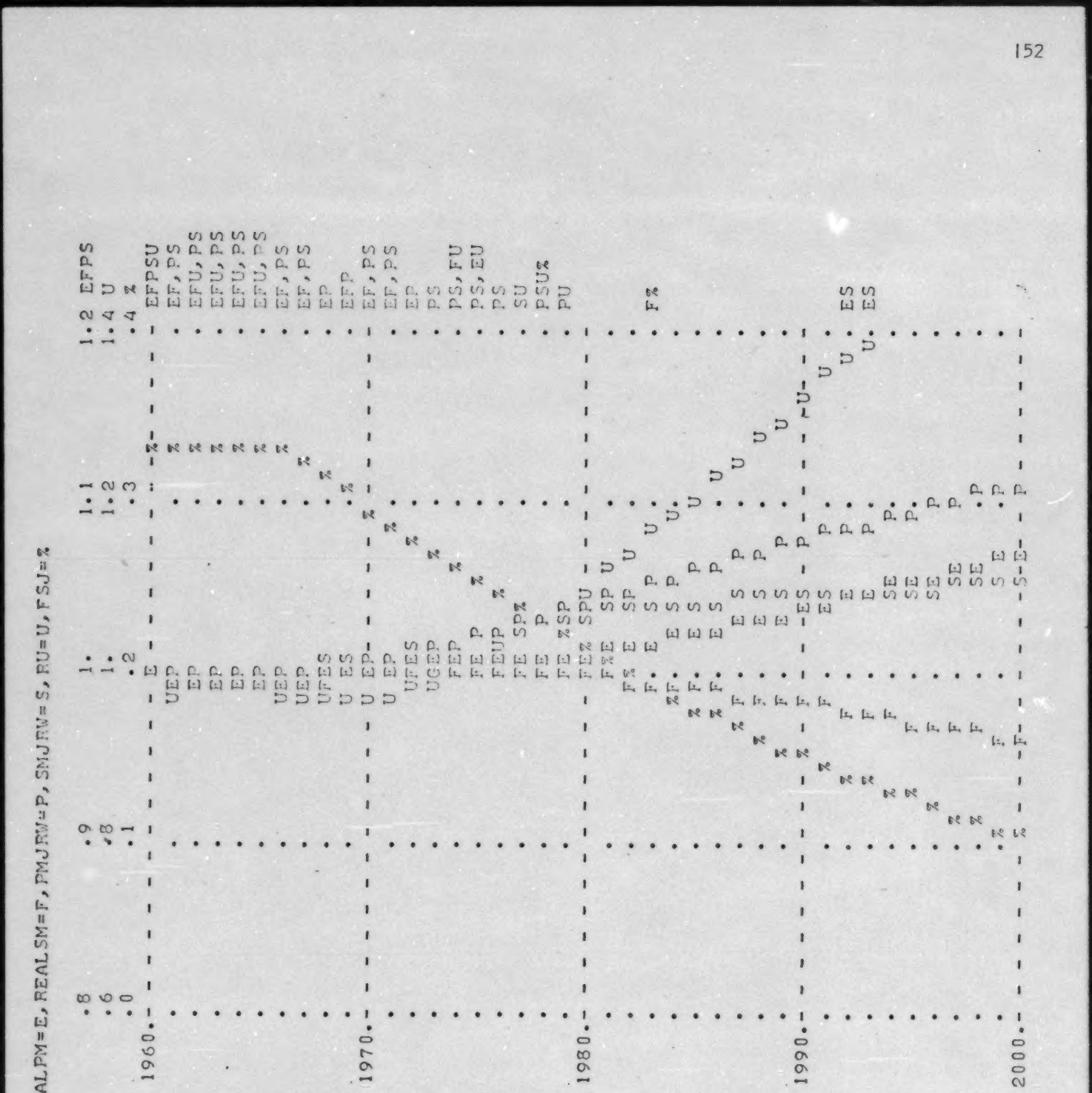
REALPM=E, REALSM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=%
1960
1970
1980
1990
2000
1.2 EFPS
1.4 U
.4 %

Figure 5-5b

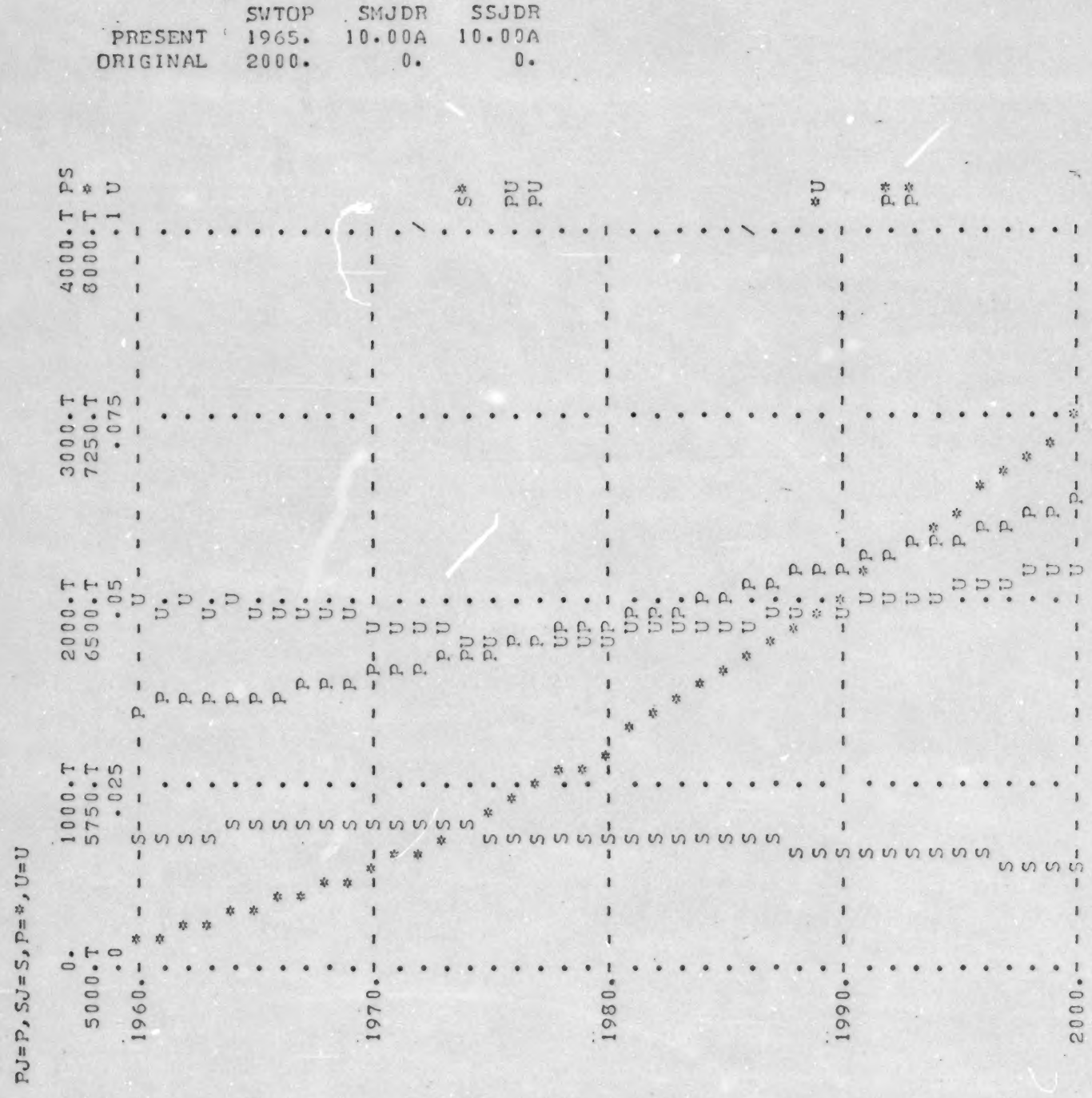

Figure 5-6a Combination Program

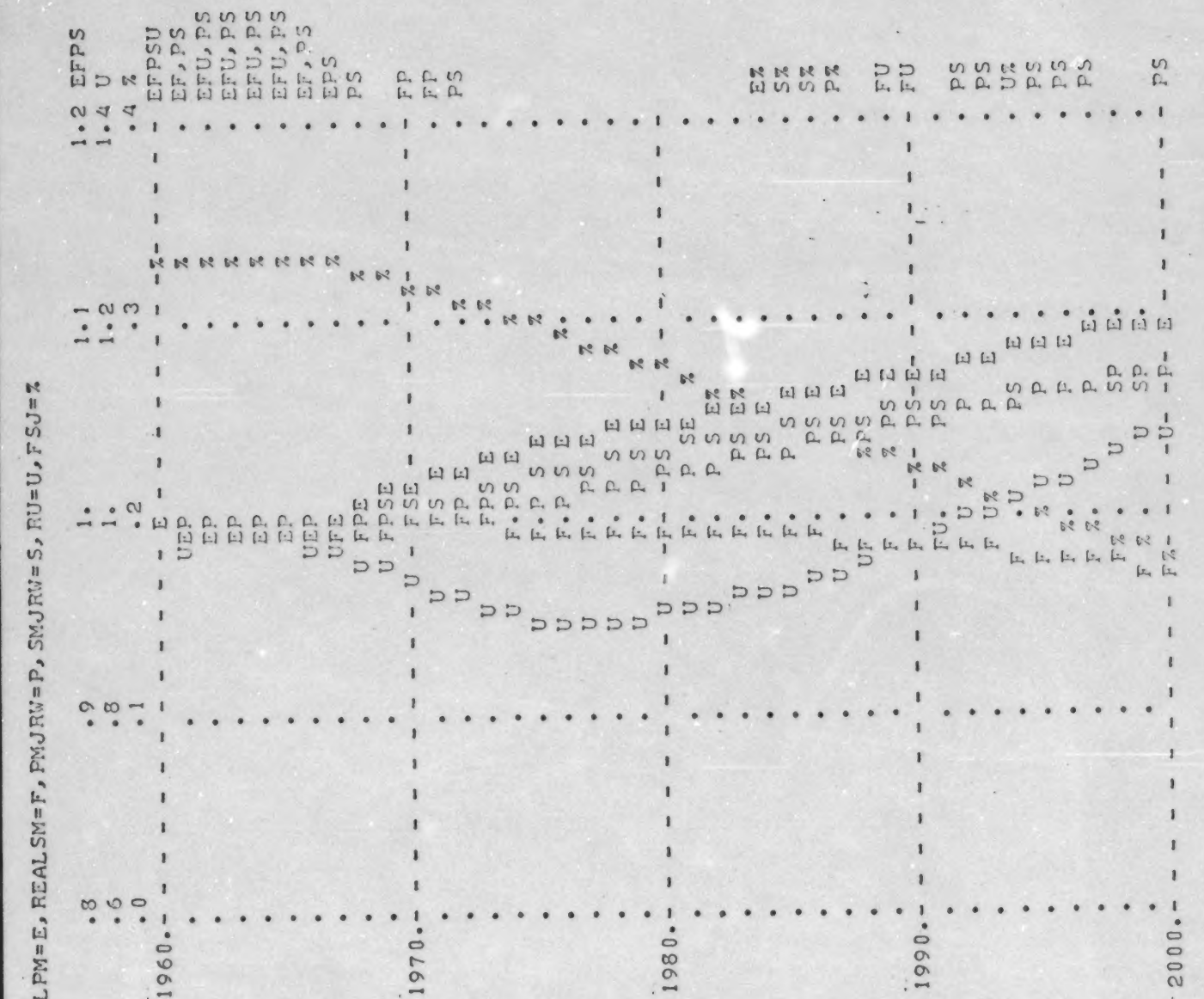
REALPM=E, REALSM=F, PMJRW=P, SMJRW=S, RU=U, FSJ=%
1960
1970
1980
1990
2000
1.2 EFPS
1.4 U
.4 %

Figure 5-6b

APPENDIX

VARIABLE DEFINITIONS

NAME	NO	T	DEFINITION
AADR	.2	C	AGING ADULT DEATH RATE (PERCENT/YEAR)
ACGMPM	173.3	C	ATTRACTIVENESS OF CG MEN TO PRIMARY MFG EMPLOYERS (UNITS)
ACGMPS	175.3	C	ATTRACTIVENESS OF CG MEN TO PRIMARY SVC EMPLOYERS (UNITS)
ACGMSM	177.3	C	ATTRACTIVENESS OF CG MEN TO SECONDARY MFG EMPLOYERS (UNITS)
ACGMSS	179.3	C	ATTRACTIVENESS OF CG MEN TO SECONDARY SVC EMPLOYERS (UNITS)
ACGWPM	173.4	C	ATTRACTIVENESS OF CG WOMEN TO PRIMARY MFG EMPLOYERS (UNITS)
ACGWPS	175.4	C	ATTRACTIVENESS OF CG WOMEN TO PRIMARY SVC EMPLOYERS (UNITS)
ACGWSM	177.4	C	ATTRACTIVENESS OF CG WOMEN TO SECONDARY MFG EMPLOYERS (UNITS)
ACGWSS	179.4	C	ATTRACTIVENESS OF CG WOMEN TO SECONDARY SVC EMPLOYERS (UNITS)
AHGMPM	173.9	C	ATTRACTIVENESS OF HG MEN TO PRIMARY MFG EMPLOYERS (UNITS)
AHGMPS	175.9	C	ATTRACTIVENESS OF HG MEN TO PRIMARY SVC EMPLOYERS (UNITS)
AHGMSM	177.9	C	ATTRACTIVENESS OF HG MEN TO SECONDARY MFG EMPLOYERS (UNITS)
AHGMSS	179.9	C	ATTRACTIVENESS OF HG MEN TO SECONDARY SVC EMPLOYERS (UNITS)
AHGWPM	174	C	ATTRACTIVENESS OF HG WOMEN TO PRIMARY MFG EMPLOYERS (UNITS)
AHGWPS	176	C	ATTRACTIVENESS OF HG WOMEN TO PRIMARY SVC EMPLOYERS (UNITS)
AHGWSM	178	C	ATTRACTIVENESS OF HG WOMEN TO SECONDARY MFG EMPLOYERS (UNITS)
AHGWSS	180	C	ATTRACTIVENESS OF HG WOMEN TO SECONDARY SVC EMPLOYERS (UNITS)
AHOMPM	174.1	C	ATTRACTIVENESS OF HO MEN TO PRIMARY MFG EMPLOYERS (UNITS)
AHOMPS	176.1	C	ATTRACTIVENESS OF HO MEN TO PRIMARY SVC EMPLOYERS (UNITS)
AHOMSM	178.1	C	ATTRACTIVENESS OF HO MEN TO SECONDARY MFG EMPLOYERS (UNITS)
AHOMSS	180.1	C	ATTRACTIVENESS OF HO MEN TO SECONDARY SVC EMPLOYERS (UNITS)
AHOWPM	174.2	C	ATTRACTIVENESS OF HO WOMEN TO PRIMARY MFG EMPLOYERS (UNITS)
AHOWPS	176.2	C	ATTRACTIVENESS OF HO WOMEN TO PRIMARY SVC EMPLOYERS (UNITS)
AHOWSM	178.2	C	ATTRACTIVENESS OF HO WOMEN TO SECONDARY MFG EMPLOYERS (UNITS)
AHOWSS	180.2	C	ATTRACTIVENESS OF HO WOMEN TO SECONDARY SVC EMPLOYERS (UNITS)
AM	52	S	AGING MEN -- AGE 65+ (PEOPLE)
AOGMPM	173.7	C	ATTRACTIVENESS OF OG MEN TO PRIMARY MFG EMPLOYERS (UNITS)
AOGMPS	175.7	C	ATTRACTIVENESS OF OG MEN TO PRIMARY SVC EMPLOYERS (UNITS)
AOGMSM	177.7	C	ATTRACTIVENESS OF OG MEN TO SECONDARY MFG EMPLOYERS (UNITS)

AOGMSS	179.7	C	ATTRACTIVENESS OF OG MEN TO SECONDARY SVC EMPLOYERS (UNITS)
AOGWPM	173.8	C	ATTRACTIVENESS OF OG WOMEN TO PRIMARY MFG EMPLOYERS (UNITS)
AOGWPS	175.8	C	ATTRACTIVENESS OF OG WOMEN TO PRIMARY SVC EMPLOYERS (UNITS)
AOGWSM	177.8	C	ATTRACTIVENESS OF OG WOMEN TO SECONDARY MFG EMPLOYERS (UNITS)
AOGWSS	179.8	C	ATTRACTIVENESS OF OG WOMEN TO SECONDARY SVC EMPLOYERS (UNITS)
ASCMPM	173.5	C	ATTRACTIVENESS OF SC MEN TO PRIMARY MFG EMPLOYERS (UNITS)
ASCMPS	175.5	C	ATTRACTIVENESS OF SC MEN TO PRIMARY SVC EMPLOYERS (UNITS)
ASCMSM	177.5	C	ATTRACTIVENESS OF SC MEN TO SECONDARY MFG EMPLOYERS (UNITS)
ASCMSS	179.5	C	ATTRACTIVENESS OF SC MEN TO SECONDARY SVC EMPLOYERS (UNITS)
ASCWPM	173.6	C	ATTRACTIVENESS OF SC WOMEN TO PRIMARY MFG EMPLOYERS (UNITS)
ASCWPS	175.6	C	ATTRACTIVENESS OF SC WOMEN TO PRIMARY SVC EMPLOYERS (UNITS)
ASCWSM	177.6	C	ATTRACTIVENESS OF SC WOMEN TO SECONDARY MFG EMPLOYERS (UNITS)
ASCWSS	179.6	C	ATTRACTIVENESS OF SC WOMEN TO SECONDARY SVC EMPLOYERS (UNITS)
AW	106	S	AGING WOMEN -- AGE 65+ (PEOPLE)
AWG	197	A	AVERAGE WAGE (DOLLARS)
B	54	S	BOYS -- AGE 0-14 (PEOPLE)
BCGF	1	A	BOYS OF CG FAMILIES (PEOPLE)
BCGFIM			BOYS OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
BCGFN	1.3	C	BOYS OF CG FAMILIES INITIAL (PEOPLE)
BCGFOM			BOYS OF CG FAMILIES OUT-MIGRATION (PEOPLE/YR)
BHGF	7	A	BOYS OF HG FAMILIES (PEOPLE)
BHGFIM			BOYS OF HG FAMILIES IN-MIGRATION (PEOPLE/YR)
BHGFN	7.3	C	BOYS OF HG FAMILIES INITIAL (PEOPLE)
BHGFOM			BOYS OF HG FAMILIES OUT-MIGRATION (PEOPLE/YR)
BHOF	9	A	BOYS OF HO FAMILIES (PEOPLE)
BHOFIM			BOYS OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)
BHOFN	9.3	C	BOYS OF HO FAMILIES INITIAL (PEOPLE)
BHOFOM			BOYS OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
BOGF	5	A	BOYS OF OG FAMILIES (PEOPLE)
BOGFIM			BOYS OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
BOGFN	5.3	C	BOYS OF OG FAMILIES INITIAL (PEOPLE)
BOGFOM			BOYS OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)
BPCGF	2.2	N	BOYS PER CG FAMILY (PEOPLE/FAMILY)
BPHGF	8.2	N	BOYS PER HG FAMILY (PEOPLE/FAMILY)
BPHOF	10.2	N	BOYS PER HO FAMILY (PEOPLE/FAMILY)
BPOGF	6.2	N	BOYS PER OG FAMILY (PEOPLE/FAMILY)
BPSCF	4.2	N	BOYS PER SC FAMILY (PEOPLE/FAMILY)

BSCF	3	A	BOYS OF SC FAMILIES (PEOPLE)
BSCFIM			BOYS OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
BSCFN	3.3	C	BOYS OF SC FAMILIES INITIAL (PEOPLE)
BSCFOM			BOYS OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
CEXF	1	L	**MACRO FUNCTION** CHLDRN OF ED-"X"
	1.1	N	FAMILIES (PEOPLE)
CEXFIM	2	A	CHLDRN OF ED-"X" FAMILIES IN-MIGRATION (PEOPLE/YR)
CEXFN			CHLDRN OF ED-"X" FAMILIES INITIAL (PEOPLE)
CEXFOM	3	A	CHLDRN OF ED-"X" FAMILIES OUT-MIGRATION (PEOPLE/YR)
CGAM			CG AGING MEN (PEOPLE)
CGAMLF	145	A	CG AGING MEN IN THE LABOR FORCE (PEOPLE)
CGAMLPN	145.1	C	CG AGING MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
CGAMLPU	145.2	C	CG AGING MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
CGAMN	41.9	C	CG AGING MEN INITIAL (PEOPLE)
CGAW			CG AGING WOMEN (PEOPLE)
CGAWLF	146	A	CG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
CGAWLPN	146.1	C	CG AGING WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
CGAWLPU	146.2	C	CG AGING WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
CGAWN	95.9	C	CG AGING WOMEN INITIAL (PEOPLE)
CGF	110	A	CG FAMILIES (FAMILIES)
CGFBBR	2.1	N	CG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
CGFGBR	56.1	N	CG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
CGFIM	111	A	CG FAMILIES IN-MIGRATION (FAMILIES/YR)
CGFOM	112	A	CG FAMILIES OUT-MIGRATION (FAMILIES/YR)
CGM	41	A	CG MEN (PEOPLE)
CGMIM			CG MEN IN-MIGRATION (PEOPLE/YR)
CGMIMOS	41.4	C	CG MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
CGMIMRN	41.3	C	CG MEN IN-MIG RATE NORMAL (PERCENT/YR)
CGMIMU	41.5	C	CG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
CGMLF	125	A	CG MEN IN THE LABOR FORCE (PEOPLE)
CGMLFPN	125.1	C	CG MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
CGMLFPU	125.2	C	CG MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
CGMLS	42	A	CG MEN LEAVING SCHOOL (PEOPLE/YR)
CGMN	41.2	C	CG MEN INITIAL (PEOPLE)
CGMOM			CG MEN OUT-MIGRATION (PEOPLE/YR)
CGMOMOS	41.7	C	CG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
CGMOMRN	41.6	C	CG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
CGMOMU	41.8	C	CG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
CGW	95	A	CG WOMEN (PEOPLE)
CGWIM			CG WOMEN IN-MIGRATION (PEOPLE/YR)
CGWIMOS	95.4	C	CG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
CGWIMRN	95.3	C	CG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
CGWIMU	95.5	C	CG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)

CGWLF	126	A	CG WOMEN IN THE LABOR FORCE (PEOPLE)
CGWLFPN	126.1	C	CG WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
CGWLFPU	126.2	C	CG WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
CGWLS	96	A	CG WOMEN LEAVING SCHOOL (PEOPLE/YR)
CGWN	95.2	C	CG WOMEN INITIAL (PEOPLE)
CGWOM			CG WOMEN OUT-MIGRATION (PEOPLE/YR)
CGWOMOS	95.7	C	CG WOMEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
CGWOMRN	95.6	C	CG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
CGWOMU	95.8	C	CG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
CLIP			LOGICAL FUNCTION, USED AS A TIME SWITCH TO CHANGE PARAMETER VALUE
CP	206	A	COLLEGE PROGRAM FACTOR (DIMENSIONLESS)
CPEXF			CHLDRN PER ED-"X" FAMILY (PEOPLE/FAMILY)
DAP	.1	C	DURATION OF THE ADULT PERIOD (YEARS)
DCP	.1	C	DURATION OF THE CHILDHOOD PERIOD (YEARS)
DT	216.4	C	
DTP	.2	C	DURATION OF THE TEENAGE PERIOD (YEARS)
EALPM	173	A	EDUC ATTRACTIVENESS OF LF TO PRIMARY MFG EMPLOYERS (UNITS)
EALPMUS	185	A	EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS -- US (UNITS)
EALPS	175	A	EDUC ATTRACTIVENESS OF LF TO PRIMARY SVC EMPLOYERS (UNITS)
EALPSUS	186	A	EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS -- US (UNITS)
EALSM	177	A	EDUC ATTRACTIVENESS OF LF TO SECONDARY MFG EMPLOYERS (UNITS)
EALSMUS	187	A	EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS -- US (UNITS)
EALSS	179	A	EDUC ATTRACTIVENESS OF LF TO SECONDARY SVC EMPLOYERS (UNITS)
EALSSUS	188	A	EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS -- US (UNITS)
EEPMJ	158.3	C	EDUCATION-ELASTICITY OF GROWTH IN PRIMARY MFG JOBS (PERCENT/YR)
EEPSJ	160.3	C	EDUCATION-ELASTICITY OF GROWTH IN PRIMARY SVC JOBS (PERCENT/YR)
EESMJ	162.3	C	EDUCATION-ELASTICITY OF GROWTH IN SECONDARY MFG JOBS (PERCENT/YR)
EESSJ	164.3	C	EDUCATION-ELASTICITY OF GROWTH IN SECONDARY SVC JOBS (PERCENT/YR)
EETXJ			EDUCATION-ELASTICITY OF GROWTH IN TYPE-"X" JOBS (PERCENT/YR)
ELPMUST	185.1	T	EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS -- US TABLE
ELPSUST	186.1	T	EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS -- US TABLE
ELSMUST	187.1	T	EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS -- US TABLE
ELSSUST	188.1	T	EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS -- US TABLE
EP	208	A	COLLEGE ENROLLMENT PROGRAM FACTOR (DIMENSIONLESS)

EXA	1	L	**MACRO FUNCTION** ED-"X" ADULTS (PEOPLE)
	1.1	N	
EXAA	7	L	ED-"X" AGING ADULTS (PEOPLE)
	7.1	N	
EXAAN			ED-"X" AGING ADULTS INITIAL (PEOPLE)
EXAIM	2	A	ED-"X" ADULTS IN-MIGRATION (PEOPLE/YR)
EXAIMOS			ED-"X" ADULTS IN-MIG DUE TO OCC STATUS (PERCENT/YR)
EXAIMRN			ED-"X" ADULTS IN-MIG RATE NORMAL (PERCENT/YR)
EXAIMU			ED-"X" ADULTS IN-MIG DUE TO UNEM (PERCENT/YR)
EXALS			ED-"X" ADULTS LEAVING SCHOOL (PEOPLE/YR)
EXAN			ED-"X" ADULTS INITIAL (PEOPLE)
EXAOM	4	A	ED-"X" ADULTS OUT-MIGRATION (PEOPLE/YR)
EXAOMOS			ED-"X" ADULTS OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
EXAOMRN			ED-"X" ADULTS OUT-MIG RATE NORMAL (PERCENT/YR)
EXAOMU			ED-"X" ADULTS OUT-MIG DUE TO UNEM (PERCENT/YR)
EXFIM			ED-"X" FAMILIES IN-MIGRATION (FAMILIES/YR)
EXFOM			ED-"X" FAMILIES OUT-MIGRATION (FAMILIES/YR)
EXPLF	1	A	**MACRO FUNCTION** ED-"X" PEOPLE IN THE LABOR FORCE (PEOPLE)
EXPLFPN			ED-"X" PEOPLE LABOR FORCE PARTIC RATE NORMAL (PERCENT)
EXPLFPU			ED-"X" PEOPLE LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
FPMJUS	200.1	C	FRACTION OF PRIMARY MFG JOBS -- US (PERCENT)
FPSJUS	200.2	C	FRACTION OF PRIMARY SERVICE JOBS -- US (PERCENT)
FSJ	168	S	FRACTION SECONDARY JOBS (PERCENT)
FSMJUS	200.3	C	FRACTION OF SECONDARY MFG JOBS -- US (PERCENT)
FSSJUS	200.4	C	FRACTION OF SECONDARY SERVICE JOBS -- US (PERCENT)
G	108	S	GIRLS -- AGE 0-14 (PEOPLE)
GCGF	55	A	GIRLS OF CG FAMILIES (PEOPLE)
GCGFIM			GIRLS OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
GCGFN	55.3	C	GIRLS OF CG FAMILIES INITIAL (PEOPLE)
GCGFOM			GIRLS OF CG FAMILIES OUT-MIGRATION (PEOPLE/YR)
GDPMJ	159	A	GROWTH IN DEMAND FOR PRIMARY MFG JOBS (PERCENT/YR)
GDPMJT	159.1	T	
GDPSJ	161	A	GROWTH IN DEMAND FOR PRIMARY SVC JOBS (PERCENT/YR)
GDPSJT	161.1	T	

GDSMJ	163	A	GROWTH IN DEMAND FOR SECONDARY MFG JOBS (PERCENT/YR)
GDSMJT	163.1	T	
GDSSJ	165	A	GROWTH IN DEMAND FOR SECONDARY SVC JOBS (PERCENT/YR)
GDSSJT	165.1	T	
GDTXJ			GROWTH IN DEMAND FOR TYPE-"X" JOBS (PERCENT/YR)
GHGF	61	A	GIRLS OF HG FAMILIES (PEOPLE)
GHGFIM			GIRLS OF HG FAMILIES IN-MIGRATION (PEOPLE/YR)
GHGFN	61.3	C	GIRLS OF HG FAMILIES INITIAL (PEOPLE)
GHGFOM			GIRLS OF HG FAMILIES OUT-MIGRATION (PEOPLE/YR)
GHOF	63	A	GIRLS OF HO FAMILIES (PEOPLE)
GHOFIM			GIRLS OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)
GHOFN	63.3	C	GIRLS OF HO FAMILIES INITIAL (PEOPLE)
GHOFOM			GIRLS OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
GOGF	59	A	GIRLS OF OG FAMILIES (PEOPLE)
GOGFIM			GIRLS OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
GOGFN	59.3	C	GIRLS OF OG FAMILIES INITIAL (PEOPLE)
GOGFOM			GIRLS OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)
GPCGF	56.2	N	GIRLS PER CG FAMILY (PEOPLE/FAMILY)
GPHGF	62.2	N	GIRLS PER HG FAMILY (PEOPLE/FAMILY)
GPHOF	64.2	N	GIRLS PER HO FAMILY (PEOPLE/FAMILY)
GPOGF	60.2	N	GIRLS PER OG FAMILY (PEOPLE/FAMILY)
GPSCF	58.2	N	GIRLS PER SC FAMILY (PEOPLE/FAMILY)
GSCF	57	A	GIRLS OF SC FAMILIES (PEOPLE)
GSCFIM			GIRLS OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
GSCFN	57.3	C	GIRLS OF SC FAMILIES INITIAL (PEOPLE)
GSCFOM			GIRLS OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
HGAM			HG AGING MEN (PEOPLE)
HGAMLF	151	A	HG AGING MEN IN THE LABOR FORCE (PEOPLE)
HGAMLPN	151.1	C	HG AGING MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HGAMLPU	151.2	C	HG AGING MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HGAMN	47.9	C	HG AGING MEN INITIAL (PEOPLE)
HGAW			HG AGING WOMEN (PEOPLE)
HGAWLF	152	A	HG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
HGAWLPN	152.1	C	HG AGING WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HGAWLPU	152.2	C	HG AGING WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HGAWN	101.9	C	HG AGING WOMEN INITIAL (PEOPLE)
HGF	119	A	HG FAMILIES (FAMILIES)
HGFBBR	8.1	N	HG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
HGFGBR	62.1	N	HG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
HGFIM	120	A	HG FAMILIES IN-MIGRATION (FAMILIES/YR)
HGFOM	121	A	HG FAMILIES OUT-MIGRATION (FAMILIES/YR)

HGM	47	A	HG MEN (PEOPLE)
HGMIM			HG MEN IN-MIGRATION (PEOPLE/YR)
HGMIMOS	47.4	C	HG MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
HGMIMRN	47.3	C	HG MEN IN-MIG RATE NORMAL (PERCENT/YR)
HGMIMU	47.5	C	HG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
HGMLF	131	A	HG MEN IN THE LABOR FORCE (PEOPLE)
HGMLFPN	131.1	C	HG MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HGMLFPU	131.2	C	HG MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HGMLS	48	A	HG MEN LEAVING SCHOOL (PEOPLE/YR)
HGMN	47.2	C	HG MEN INITIAL (PEOPLE)
HGMOM			HG MEN OUT-MIGRATION (PEOPLE/YR)
HGMOMOS	47.7	C	HG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
HGMOMRN	47.6	C	HG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
HGMOMU	47.8	C	HG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
HGW	101	A	HG WOMEN (PEOPLE)
HGWIM			HG WOMEN IN-MIGRATION (PEOPLE/YR)
HGWIMOS	101.4	C	HG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
HGWIMRN	101.3	C	HG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
HGWIMU	101.5	C	HG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
HGWLF	132	A	HG WOMEN IN THE LABOR FORCE (PEOPLE)
HGWLFPN	132.1	C	HG WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HGWLFPU	132.2	C	HG WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HGWLS	102	A	HG WOMEN LEAVING SCHOOL (PEOPLE/YR)
HGWN	101.2	C	HG WOMEN INITIAL (PEOPLE)
HGWOM			HG WOMEN OUT-MIGRATION (PEOPLE/YR)
HGWOMOS	101.7	C	HG WOMEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
HGWOMRN	101.6	C	HG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
HGWOMU	101.8	C	HG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
HOAM			HO AGING MEN (PEOPLE)
HOAMLF	153	A	HO AGING MEN IN THE LABOR FORCE (PEOPLE)
HOAMLPN	153.1	C	HO AGING MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HOAMLPU	153.2	C	HO AGING MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HOAMN	49.9	C	HO AGING MEN INITIAL (PEOPLE)
HOAW			HO AGING WOMEN (PEOPLE)
HOAWLF	154	A	HO AGING WOMEN IN THE LABOR FORCE (PEOPLE)
HOAWLPN	154.1	C	HO AGING WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HOAWLPU	154.2	C	HO AGING WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HOAWN	103.9	C	HO AGING WOMEN INITIAL (PEOPLE)
HOF	122	A	HO FAMILIES (FAMILIES)
HOFBBR	10.1	N	HO FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
HOFGBR	64.1	N	HO FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
HOFIM	123	A	HO FAMILIES IN-MIGRATION (FAMILIES/YR)
HOFOM	124	A	HO FAMILIES OUT-MIGRATION (FAMILIES/YR)
HOM	49	A	HO MEN (PEOPLE)

HOMIM			HO MEN IN-MIGRATION (PEOPLE/YR)
HOMIMOS	49.4	C	HO MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
HOMIMRN	49.3	C	HO MEN IN-MIG RATE NORMAL (PERCENT/YR)
HOMIMU	49.5	C	HO MEN IN-MIG DUE TO UNEM (PERCENT/YR)
HOMLF	133	A	HO MEN IN THE LABOR FORCE (PEOPLE)
HOMLFPN	133.1	C	HO MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HOMLFPU	133.2	C	HO MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HOMLS	50	A	HO MEN LEAVING SCHOOL (PEOPLE/YR)
HOMN	49.2	C	HO MEN INITIAL (PEOPLE)
HOMOM			HO MEN OUT-MIGRATION (PEOPLE/YR)
HOMOMOS	49.7	C	HO MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
HOMOMRN	49.6	C	HO MEN OUT-MIG RATE NORMAL (PERCENT/YR)
HOMOMU	49.8	C	HO MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
HOW	103	A	HO WOMEN (PEOPLE)
HOWIM			HO WOMEN IN-MIGRATION (PEOPLE/YR)
HOWIMOS	103.4	C	HO WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
HOWIMRN	103.3	C	HO WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
HOWIMU	103.5	C	HO WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
HOWLF	134	A	HO WOMEN IN THE LABOR FORCE (PEOPLE)
HOWLFPN	134.1	C	HO WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
HOWLFPU	134.2	C	HO WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
HOWLS	104	A	HO WOMEN LEAVING SCHOOL (PEOPLE/YR)
HOWN	103.2	C	HO WOMEN INITIAL (PEOPLE)
HOWOM			HO WOMEN OUT-MIGRATION (PEOPLE/YR)
HOWOMOS	103.7	C	HO WOMEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
HOWOMRN	103.6	C	HO WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
HOWOMU	103.8	C	HO WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
HP	214	A	HIGH SCHOOL PROGRAM FACTOR (DIMENSIONLESS)
J	169	A	JOBS (JOBS)
LENGTH	216.9	C	
LF	157	A	LABOR FORCE (PEOPLE)
M	51	S	MEN -- AGE 20-64 (PEOPLE)
MLF	155	A	MEN IN THE LABOR FORCE (PEOPLE)
NBCGF	2	A	NEW BOYS OF CG FAMILIES (PEOPLE/YR)
NBHGF	8	A	NEW BOYS OF HG FAMILIES (PEOPLE/YR)
NBHOF	10	A	NEW BOYS OF HO FAMILIES (PEOPLE/YR)
NBOGF	6	A	NEW BOYS OF OG FAMILIES (PEOPLE/YR)
NBSCF	4	A	NEW BOYS OF SC FAMILIES (PEOPLE/YR)
NCEXF			NEW CHLDRN OF ED-"X" FAMILIES (PEOPLE/YR)
NGCGF	56	A	NEW GIRLS OF CG FAMILIES (PEOPLE/YR)
NGHGF	62	A	NEW GIRLS OF HG FAMILIES (PEOPLE/YR)
NGHOF	64	A	NEW GIRLS OF HO FAMILIES (PEOPLE/YR)
NGOGF	60	A	NEW GIRLS OF OG FAMILIES (PEOPLE/YR)
NGSCF	58	A	NEW GIRLS OF SC FAMILIES (PEOPLE/YR)
NTEXFEC			NORMAL % TEENS OF ED-"X" FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NTEXFH			NORMAL % TEENS OF ED-"X" FAMILIES COMPLETING HS (PERCENT)
NTEXFHE			NORMAL % TEENS OF ED-"X" FAMILIES COMPLETING HS WHO ENROLL IN COL (%)

NTEXFO			NORMAL % TEENS OF ED-"X" FAMILIES COMPLETING OE (PERCENT)
NTEXFOE			NORMAL % TEENS OF ED-"X" FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NVCGFEC	70	A	NORMAL % FEMALE YOUTH OF CG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NVCGFH	66	A	NORMAL % FEMALE YOUTH OF CG FAMILIES COMPLETING HS (PERCENT)
NVCGFHE	68	A	NORMAL % FEM YOUTH OF CG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NVCGFO	67	A	NORMAL % FEMALE YOUTH OF CG FAMILIES COMPLETING OE (PERCENT)
NVCGFOE	69	A	NORMAL % FEM YOUTH OF CG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NVHGFEC	88	A	NORMAL % FEMALE YOUTH OF HG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NVHGFH	84	A	NORMAL % FEMALE YOUTH OF HG FAMILIES COMPLETING HS (PERCENT)
NVHGFHE	86	A	NORMAL % FEM YOUTH OF HG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NVHGFO	85	A	NORMAL % FEMALE YOUTH OF HG FAMILIES COMPLETING OE (PERCENT)
NVHGFOE	87	A	NORMAL % FEM YOUTH OF HG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NVHOFEC	94	A	NORMAL % FEMALE YOUTH OF HO FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NVHOFH	90	A	NORMAL % FEMALE YOUTH OF HO FAMILIES COMPLETING HS (PERCENT)
NVHOFHE	92	A	NORMAL % FEM YOUTH OF HO FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NVHOFO	91	A	NORMAL % FEMALE YOUTH OF HO FAMILIES COMPLETING OE (PERCENT)
NVHOFOE	93	A	NORMAL % FEM YOUTH OF HO FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NVOGFEC	82	A	NORMAL % FEMALE YOUTH OF OG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NVOGFH	78	A	NORMAL % FEMALE YOUTH OF OG FAMILIES COMPLETING HS (PERCENT)
NVOGFHE	80	A	NORMAL % FEM YOUTH OF OG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NVOGFO	79	A	NORMAL % FEMALE YOUTH OF OG FAMILIES COMPLETING OE (PERCENT)
NVOGFOE	81	A	NORMAL % FEM YOUTH OF OG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NVSCFEC	76	A	NORMAL % FEMALE YOUTH OF SC FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NVSCFH	72	A	NORMAL % FEMALE YOUTH OF SC FAMILIES COMPLETING HS (PERCENT)
NVSCFHE	74	A	NORMAL % FEM YOUTH OF SC FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NVSCFO	73	A	NORMAL % FEMALE YOUTH OF SC FAMILIES COMPLETING OE (PERCENT)
NVSCFOE	75	A	NORMAL % FEM YOUTH OF SC FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NYCGFEC	16	A	NORMAL % MALE YOUTH OF CG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NYCGFH	12	A	NORMAL % MALE YOUTH OF CG FAMILIES COMPLETING HS (PERCENT)

NYCGFHE	14	A	NORMAL % MALE YOUTH OF CG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NYCGFO	13	A	NORMAL % MALE YOUTH OF CG FAMILIES COMPLETING OE (PERCENT)
NYCGFOE	15	A	NORMAL % MALE YOUTH OF CG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NYHGFEC	34	A	NORMAL % MALE YOUTH OF HG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NYHGFH	30	A	NORMAL % MALE YOUTH OF HG FAMILIES COMPLETING HS (PERCENT)
NYHGFHE	32	A	NORMAL % MALE YOUTH OF HG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NYHGFO	31	A	NORMAL % MALE YOUTH OF HG FAMILIES COMPLETING OE (PERCENT)
NYHGFOE	33	A	NORMAL % MALE YOUTH OF HG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NYHOFEC	40	A	NORMAL % MALE YOUTH OF HO FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NYHOFH	36	A	NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING HS (PERCENT)
NYHOFHE	38	A	NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NYHOFO	37	A	NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING OE (PERCENT)
NYHOFOE	39	A	NORMAL % MALE YOUTH OF HO FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NYOGFEC	28	A	NORMAL % MALE YOUTH OF OG FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NYOGFH	24	A	NORMAL % MALE YOUTH OF OG FAMILIES COMPLETING HS (PERCENT)
NYOGFHE	26	A	NORMAL % MALE YOUTH OF OG FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NYOGFO	25	A	NORMAL % MALE YOUTH OF OG FAMILIES COMPLETING OE (PERCENT)
NYOGFOE	27	A	NORMAL % MALE YOUTH OF OG FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
NYSCFEC	22	A	NORMAL % MALE YOUTH OF SC FAMILIES ENROLLING IN COL WHO GRADUATE (%)
NYSCFH	18	A	NORMAL % MALE YOUTH OF SC FAMILIES COMPLETING HS (PERCENT)
NYSCFHE	20	A	NORMAL % MALE YOUTH OF SC FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
NYSCFO	19	A	NORMAL % MALE YOUTH OF SC FAMILIES COMPLETING OE (PERCENT)
NYSCFOE	21	A	NORMAL % MALE YOUTH OF SC FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
OGAM			OG AGING MEN (PEOPLE)
OGAMLF	149	A	OG AGING MEN IN THE LABOR FORCE (PEOPLE)
OGAMLPN	149.1	C	OG AGING MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
OGAMLPU	149.2	C	OG AGING MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
OGAMN	45.9	C	OG AGING MEN INITIAL (PEOPLE)
OGAW			OG AGING WOMEN (PEOPLE)
OGAWLF	150	A	OG AGING WOMEN IN THE LABOR FORCE (PEOPLE)
OGAWLPN	150.1	C	OG AGING WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)

OGAWLPU	150.2	C	OG AGING WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
OGAWN	99.9	C	OG AGING WOMEN INITIAL (PEOPLE)
OGF	116	A	OG FAMILIES (FAMILIES)
OGFBBR	6.1	N	OG FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
OGFGBR	60.1	N	OG FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
OGFIM	117	A	OG FAMILIES IN-MIGRATION (FAMILIES/YR)
OGFOM	118	A	OG FAMILIES OUT-MIGRATION (FAMILIES/YR)
OGM	45	A	OG MEN (PEOPLE)
OGMIM			OG MEN IN-MIGRATION (PEOPLE/YR)
OGMIMOS	45.4	C	OG MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
OGMIMRN	45.3	C	OG MEN IN-MIG RATE NORMAL (PERCENT/YR)
OGMIMU	45.5	C	OG MEN IN-MIG DUE TO UNEM (PERCENT/YR)
OGMLF	129	A	OG MEN IN THE LABOR FORCE (PEOPLE)
OGMLFPN	129.1	C	OG MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
OGMLFPU	129.2	C	OG MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
OGMLS	46	A	OG MEN LEAVING SCHOOL (PEOPLE/YR)
OGMN	45.2	C	OG MEN INITIAL (PEOPLE)
OGMOM			OG MEN OUT-MIGRATION (PEOPLE/YR)
OGMOMOS	45.7	C	OG MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
OGMOMRN	45.6	C	OG MEN OUT-MIG RATE NORMAL (PERCENT/YR)
OGMOMU	45.8	C	OG MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
OGW	99	A	OG WOMEN (PEOPLE)
OGWIM			OG WOMEN IN-MIGRATION (PEOPLE/YR)
OGWIMOS	99.4	C	OG WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
OGWIMRN	99.3	C	OG WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
OGWIMU	99.5	C	OG WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
OGWLF	130	A	OG WOMEN IN THE LABOR FORCE (PEOPLE)
OGWLFPN	130.1	C	OG WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
OGWLFPU	130.2	C	OG WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
OGWLS	100	A	OG WOMEN LEAVING SCHOOL (PEOPLE/YR)
OGWN	99.2	C	OG WOMEN INITIAL (PEOPLE)
OGWOM			OG WOMEN OUT-MIGRATION (PEOPLE/YR)
OGWOMOS	99.7	C	OG WOMEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
OGWOMRN	99.6	C	OG WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
OGWOMU	99.8	C	OG WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
OP	211	A	OCCUPATIONAL EDUCATION PROGRAM FACTOR (DIMENSIONLESS)
OS	198	A	OCCUPATIONAL STATUS (STATUS UNITS)
OSN	200	A	OCCUPATIONAL STATUS NORMAL (STATUS UNITS)
P	109	S	POPULATION (PEOPLE)
PJ	166	S	PRIMARY JOBS (JOBS)
PLTPER	216.5	C	
PMJ	158	A	PRIMARY MANUFACTURING JOBS (JOBS)
PMJDP	202	A	PRIMARY MFG JOB DEVELOPMENT PROGRAM (JOBS/YR)
PMJDR	202.1	C	PRIMARY MFG JOB DEVELOPMENT RATE (%/YR)
PMJN	158.1	C	PRIMARY MANUFACTURING JOBS INITIAL (JOBS)

PMJRW	189	A	PRIMARY MFG JOB RELATIVE WAGE (DIMENSIONLESS)
PMJW			PRIMARY MFG JOB WAGE (DOLLARS)
PMJWN	189.4	C	PRIMARY MFG JOB WAGE INITIAL (DOLLARS)
PMJWUS	190	A	PRIMARY MFG JOB WAGE -- US (DOLLARS)
PRTPER	216.6	C	
PSJ	160	A	PRIMARY SERVICE JOBS (JOBS)
PSJDP	203	A	PRIMARY SVC JOB DEVELOPMENT PROGRAM (JOBS/YR)
PSJDR	203.1	C	PRIMARY SVC JOB DEVELOPMENT RATE (%/YR)
PSJN	160.1	C	PRIMARY SERVICE JOBS INITIAL (JOBS)
PSJRW	191	A	PRIMARY SVC JOB RELATIVE WAGE (DIMENSIONLESS)
PSJW			PRIMARY SVC JOB WAGE (DOLLARS)
PSJWN	191.4	C	PRIMARY SVC JOB WAGE INITIAL (DOLLARS)
PSJWUS	192	A	PRIMARY SVC JOB WAGE -- US (DOLLARS)
REALPM	181	A	RELATIVE EDUC ATTR OF LF TO PRIMARY MFG EMPLOYERS (DMNLS)
REALPS	182	A	RELATIVE EDUC ATTR OF LF TO PRIMARY SVC EMPLOYERS (DMNLS)
REALSM	183	A	RELATIVE EDUC ATTR OF LF TO SECONDARY MFG EMPLOYERS (DMNLS)
REALSS	184	A	RELATIVE EDUC ATTR OF LF TO SECONDARY SVC EMPLOYERS (DMNLS)
REALTX			
ROS	199	A	RELATIVE OCCUPATIONAL STATUS (DIMENSIONLESS)
RU	171	A	RELATIVE UNEMPLOYMENT (DIMENSIONLESS)
RUP	172	L	RELATIVE UNEMPLOYMENT PERCEIVED (PERCENT)
	172.1	N	
RUPN	172.2	C	RELATIVE UNEMPLOYMENT PERCIEVED INITIAL (PERCENT)
RUPT	172.3	C	RELATIVE UNEMPLOYMENT PERCEPTION TIME (YEARS)
SCAM			SC AGING MEN (PEOPLE)
SCAMLF	147	A	SC AGING MEN IN THE LABOR FORCE (PEOPLE)
SCAMLPN	147.1	C	SC AGING MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
SCAMLPU	147.2	C	SC AGING MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
SCAMN	43.9	C	SC AGING MEN INITIAL (PEOPLE)
SCAW			SC AGING WOMEN (PEOPLE)
SCAWLF	148	A	SC AGING WOMEN IN THE LABOR FORCE (PEOPLE)
SCAWLPN	148.1	C	SC AGING WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
SCAWLPU	148.2	C	SC AGING WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
SCAWN	97.9	C	SC AGING WOMEN INITIAL (PEOPLE)
SCF	113	A	SC FAMILIES (FAMILIES)
SCFBBR	4.1	N	SC FAMILIES BOY BIRTH RATE (PEOPLE/FAMILY/YR)
SCFGBR	58.1	N	SC FAMILIES GIRL BIRTH RATE (PEOPLE/FAMILY/YR)
SCFIM	114	A	SC FAMILIES IN-MIGRATION (FAMILIES/YR)
SCFOM	115	A	SC FAMILIES OUT-MIGRATION (FAMILIES/YR)
SCM	43	A	SC MEN (PEOPLE)
SCMIM			SC MEN IN-MIGRATION (PEOPLE/YR)

SCMIMOS	43.4	C	SC MEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
SCMIMRN	43.3	C	SC MEN IN-MIG RATE NORMAL (PERCENT/YR)
SCMIMU	43.5	C	SC MEN IN-MIG DUE TO UNEM (PERCENT/YR)
SCMLF	127	A	SC MEN IN THE LABOR FORCE (PEOPLE)
SCMLFPN	127.1	C	SC MEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
SCMLFPU	127.2	C	SC MEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
SCMLS	44	A	SC MEN LEAVING SCHOOL (PEOPLE/YR)
SCMN	43.2	C	SC MEN INITIAL (PEOPLE)
SCMOM			SC MEN OUT-MIGRATION (PEOPLE/YR)
SCMOMOS	43.7	C	SC MEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
SCMOMRN	43.6	C	SC MEN OUT-MIG RATE NORMAL (PERCENT/YR)
SCMOMU	43.8	C	SC MEN OUT-MIG DUE TO UNEM (PERCENT/YR)
SCW	97	A	SC WOMEN (PEOPLE)
SCWIM			SC WOMEN IN-MIGRATION (PEOPLE/YR)
SCWIMOS	97.4	C	SC WOMEN IN-MIG DUE TO OCC STATUS (PERCENT/YR)
SCWIMRN	97.3	C	SC WOMEN IN-MIG RATE NORMAL (PERCENT/YR)
SCWIMU	97.5	C	SC WOMEN IN-MIG DUE TO UNEM (PERCENT/YR)
SCWLF	128	A	SC WOMEN IN THE LABOR FORCE (PEOPLE)
SCWLFPN	128.1	C	SC WOMEN LABOR FORCE PARTIC RATE NORMAL (PERCENT)
SCWLFPU	128.2	C	SC WOMEN LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
SCWLS	98	A	SC WOMEN LEAVING SCHOOL (PEOPLE/YR)
SCWN	97.2	C	SC WOMEN INITIAL (PEOPLE)
SCWOM			SC WOMEN OUT-MIGRATION (PEOPLE/YR)
SCWOMOS	97.7	C	SC WOMEN OUT-MIG DUE TO OCC STATUS (PERCENT/YR)
SCWOMRN	97.6	C	SC WOMEN OUT-MIG RATE NORMAL (PERCENT/YR)
SCWOMU	97.8	C	SC WOMEN OUT-MIG DUE TO UNEM (PERCENT/YR)
SJ	167	S	SECONDARY JOBS (JOBS)
SMJ	162	A	SECONDARY MANUFACTURING JOBS (JOBS)
SMJDP	204	A	SECONDARY MFG JOB DEVELOPMENT PROGRAM (JOBS/YR)
SMJDR	204.1	C	SECONDARY MFG JOB DEVELOPMENT RATE (%/YR)
SMJN	162.1	C	SECONDARY MANUFACTURING JOBS INITIAL (JOBS)
SMJRW	193	A	SECONDARY MFG JOB RELATIVE WAGE (DIMENSIONLESS)
SMJW			SECONDARY MFG JOB WAGE (DOLLARS)
SMJWN	193.4	C	SECONDARY MFG JOB WAGE INITIAL (DOLLARS)
SMJWUS	194	A	SECONDARY MFG JOB WAGE -- US (DOLLARS)
SPMJ	198.1	C	STATUS OF PRIMARY MFG JOBS (STATUS UNITS)
SPMJUS	200.5	C	STATUS OF PRIMARY MFG JOBS -- US (STATUS UNITS)
SPSJ	198.2	C	STATUS OF PRIMARY SERVICE JOBS (STATUS UNITS)
SPSJUS	200.6	C	STATUS OF PRIMARY SERVICE JOBS -- US (STATUS UNITS)
SSJ	164	A	SECONDARY SERVICE JOBS (JOBS)
SSJDP	205	A	SECONDARY SVC JOB DEVELOPMENT PROGRAM (JOBS/YR)
SSJDR	205.1	C	SECONDARY SVC JOB DEVELOPMENT RATE (%/YR)
SSJN	164.1	C	SECONDARY SERVICE JOBS INITIAL (JOBS)

SSJRW	195	A	SECONDARY SVC JOB RELATIVE WAGE (DIMENSIONLESS)
SSJW			SECONDARY SVC JOB WAGE (DOLLARS)
SSJWN	195.4	C	SECONDARY SVC JOB WAGE INITIAL (DOLLARS)
SSJWUS	196	A	SECONDARY SVC JOB WAGE -- US (DOLLARS)
SSMJ	198.3	C	STATUS OF SECONDARY MFG JOBS (STATUS UNITS)
SSMJUS	200.7	C	STATUS OF SECONDARY MFG JOBS -- US (STATUS UNITS)
SSSJ	198.4	C	STATUS OF SECONDARY SERVICE JOBS (STATUS UNITS)
SSSJUS	200.8	C	STATUS OF SECONDARY SERVICE JOBS -- US (STATUS UNITS)
SWTCP	206.1	C	SWITCH TIME FOR COLLEGE PROGRAM (YEARS)
SWTEP	208.1	C	SWITCH TIME FOR COLLEGE ENROLLMENT PROGRAM (YEARS)
SWTHP	214.1	C	SWITCH TIME FOR HIGH SCHOOL PROGRAM (YEARS)
SWTJD	205.2	C	SWITCH TIME FOR JOB DEVELOPMENT PROGRAM (YEARS)
SWTOP	211.1	C	SWITCH TIME FOR OCCUPATIONAL EDUCATION PROGRAM (YEARS)
TABLE			LOGICAL FUNCTION, TABLE LOOK UP AND INTERPOLATION
TEXF	5	L	TEENS OF ED-"X" FAMILIES (PEOPLE)
	5.1	N	
TEXFBA	10	A	TEENS OF ED-"X" FAMILIES BECOMING ADULTS (PEOPLE/YR)
TEXFCG	1	A	**MACRO FUNCTION** TEENS OF ED-"X"FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
TEXFCP			
TEXFDOP			
TEXFEHP			
TEXFEOP			
TEXFHG	4	A	TEENS OF ED-"X" FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
TEXFHO	5	A	TEENS OF ED-"X" FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
TEXFHOP			
TEXFHP			
TEXFIM	6	A	TEENS OF ED-"X" FAMILIES IN-MIGRATION (PEOPLE/YR)
TEXFN			TEENS OF ED-"X" FAMILIES INITIAL (PEOPLE)
TEXFOG	3	A	TEENS OF ED-"X" FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
TEXFOM	8	A	TEENS OF ED-"X" FAMILIES OUT-MIGRATION (PEOPLE/YR)
TEXFSC	2	A	TEENS OF ED-"X" FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
TEXIMOS			TEENS OF ED-"X" FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
TEXIMRN			TEENS OF ED-"X" FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
TEXIMU			TEENS OF ED-"X" FAMILIES IN-MIG DUE TO UNEM (%/YR)
TEXOMOS			TEENS OF ED-"X" FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
TEXOMRN			TEENS OF ED-"X" FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)

TEXOMU			TEENS OF ED-"X" FAMILIES OUT-MIG DUE TO UNEM (%/YR)
TIME	216.7	N	CALENDAR TIME (YEARS)
TIMEN	216.8	C	
TPMJWAW	189.2	C	TARGET PRIMARY MFG JOB WAGE DUE TO AVG WAGE (DIMENSIONLESS)
TPMJWC	189.1	C	TARGET PRIMARY MFG JOB WAGE CONSTANT (DOLLARS)
TPMJWU	189.3	C	TARGET PRIMARY MFG JOB WAGE DUE TO UNEM (DOLLARS/PERCENT)
TPSJWAW	191.2	C	TARGET PRIMARY SVC JOB WAGE DUE TO AVG WAGE (DIMENSIONLESS)
TPSJWC	191.1	C	TARGET PRIMARY SVC JOB WAGE CONSTANT (DOLLARS)
TPSJWU	191.3	C	TARGET PRIMARY SVC JOB WAGE DUE TO UNEM (DOLLARS/PERCENT)
TSMJWAW	193.2	C	TARGET SECONDARY MFG JOB WAGE DUE TO AVG WAGE (DIMENSIONLESS)
TSMJWC	193.1	C	TARGET SECONDARY MFG JOB WAGE CONSTANT (DOLLARS)
TSMJWU	193.3	C	TARGET SECONDARY MFG JOB WAGE DUE TO UNEM (DOLLARS/PERCENT)
TSSJWAW	195.2	C	TARGET SECONDARY SVC JOB WAGE DUE TO AVG WAGE (DIMENSIONLESS)
TSSJWC	195.1	C	TARGET SECONDARY SVC JOB WAGE CONSTANT (DOLLARS)
TSSJWU	195.3	C	TARGET SECONDARY SVC JOB WAGE DUE TO UNEM (DOLLARS/PERCENT)
TTXJWAW			TARGET TYPE-"X" JOB WAGE DUE TO AVERAGE WAGE (DIMENSIONLESS)
TTXJWC			TARGET TYPE-"X" JOB WAGE CONSTANT (DOLLARS)
TTXJWU			TARGET TYPE-"X" JOB WAGE DUE TO UNEM (DOLLARS/PERCENT)
TXJ	1	L	**MACRO FUNCTION** TYPE-"X" JOBS (JOBS)
	1.1	N	
TXJDP			TYPE-"X" JOB DEVELOPMENT PROGRAM (JOBS/YR)
TXJN			TYPE-"X" JOBS INITIAL (JOBS)
TXJRW	3	A	**MACRO FUNCTION** TYPE-"X" JOB RELATIVE WAGE (DIMENSIONLESS)
TXJW	2	L	TYPE-"X" JOB WAGE (DOLLARS)
	2.1	N	
TXJWN			TYPE-"X" JOB WAGE INTXJIAL (DOLLARS)
TXJWUS			TYPE-"X" JOB WAGE -- US (DOLLARS)
U	170	A	UNEMPLOYMENT (PERCENT)
UN	171.1	C	UNEMPLOYMENT NORMAL (PERCENT)
V	107	S	FEMALE YOUTH -- AGE 15-19 (PEOPLE)
VCGF			FEMALE YOUTH OF CG FAMILIES (PEOPLE)
VCGFBA			FEMALE YOUTH OF CG FAMILIES BECOMING ADULTS (PEOPLE/YR)
VCGFCG	65	A	FEMALE YOUTH OF CG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
VCGFCP	206.7	C	FEMALE YOUTH OF CG FAMILIES COLLEGE PROGRAM FACTOR (%)
VCGFDOP	211.7	C	FEMALE YOUTH OF CG FAM DROPOUTS TO OE PROGRAM FACTOR (%)

VCGFEHP	209.7	C	FEMALE YOUTH OF CG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
VCGFEOP	208.7	C	FEMALE YOUTH OF CG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
VCGFHG			FEMALE YOUTH OF CG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
VCGFHO			FEMALE YOUTH OF CG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
VCGFHOP	212.7	C	FEMALE YOUTH OF CG FAM HS TO OE PROGRAM FACTOR (%)
VCGFHP	214.7	C	FEMALE YOUTH OF CG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
VCGFIM			FEMALE YOUTH OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
VCGFLF	136	A	FEMALE YOUTH OF CG FAMILIES IN THE LABOR FORCE (PEOPLE)
VCGFN	56.3	C	FEMALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
VCGFOG			FEMALE YOUTH OF CG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
VCGFOM			FEMALE YOUTH OF CG FAMILIES OUT-MIGRATION (PEOPLE/YR)
VCGFSC			FEMALE YOUTH OF CG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
VCGIMOS	56.5	C	FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VCGIMRN	56.4	C	FEMALE YOUTH OF CG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VCGIMU	56.6	C	FEMALE YOUTH OF CG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VCGLFPN	136.1	C	FEMALE YOUTH OF CG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
VCGLFPU	136.2	C	FEMALE YOUTH OF CG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
VCGOM			
VCGOMOS	56.8	C	FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VCGOMRN	56.7	C	FEMALE YOUTH OF CG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VCGOMU	56.9	C	FEMALE YOUTH OF CG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VHFGOM			
VHGF			FEMALE YOUTH OF HG FAMILIES (PEOPLE)
VHGFBA			FEMALE YOUTH OF HG FAMILIES BECOMING ADULTS (PEOPLE/YR)
VHGFCG	83	A	FEMALE YOUTH OF HG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
VHGFCP	207	C	FEMALE YOUTH OF HG FAMILIES COLLEGE PROGRAM FACTOR (%)
VHGFDOP	212	C	FEMALE YOUTH OF HG FAM DROPOUTS TO OE PROGRAM FACTOR (%)
VHGFEHP	210	C	FEMALE YOUTH OF HG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
VHGFEOP	209	C	FEMALE YOUTH OF HG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
VHGFHG			FEMALE YOUTH OF HG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)

VHGFHO			FEMALE YOUTH OF HG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
VHGFHOP	213	C	FEMALE YOUTH OF HG FAM HS TO OE PROGRAM FACTOR (%)
VHGFHP	215	C	FEMALE YOUTH OF HG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
VHGFIM			FEMALE YOUTH OF HG FAMILIES IN-MIGRATION (PEOPLE/YR)
VHGFLF	142	A	FEMALE YOUTH OF HG FAMILIES IN THE LABOR FORCE (PEOPLE)
VHGFN	62.3	C	FEMALE YOUTH OF HG FAMILIES INITIAL (PEOPLE)
VHGFOG			FEMALE YOUTH OF HG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
VHGFOM			FEMALE YOUTH OF HG FAMILIES OUT-MIGRATION (PEOPLE/YR)
VHGFSC			FEMALE YOUTH OF HG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
VHGIMOS	62.5	C	FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VHGIMRN	62.4	C	FEMALE YOUTH OF HG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VHGIMU	62.6	C	FEMALE YOUTH OF HG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VHGLFPN	142.1	C	FEMALE YOUTH OF HG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
VHGLFPU	142.2	C	FEMALE YOUTH OF HG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
VHGOMOS	62.8	C	FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VHGOMRN	62.7	C	FEMALE YOUTH OF HG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VHGOMU	62.9	C	FEMALE YOUTH OF HG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VHOF			FEMALE YOUTH OF HO FAMILIES (PEOPLE)
VHOFBA			FEMALE YOUTH OF HO FAMILIES BECOMING ADULTS (PEOPLE/YR)
VHOFCG	89	A	FEMALE YOUTH OF HO FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
VHOFCP	207.1	C	FEMALE YOUTH OF HO FAMILIES COLLEGE PROGRAM FACTOR (%)
VHOFDOP	212.1	C	FEMALE YOUTH OF HO FAM DROPOUTS TO OE PROGRAM FACTOR (%)
VHOFEHP	210.1	C	FEMALE YOUTH OF HO FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
VHOFEOP	209.1	C	FEMALE YOUTH OF HO FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
VHOFHG			FEMALE YOUTH OF HO FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
VHOFHO			FEMALE YOUTH OF HO FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
VHOFHOP	213.1	C	FEMALE YOUTH OF HO FAM HS TO OE PROGRAM FACTOR (%)
VHOFHP	215.1	C	FEMALE YOUTH OF HO FAM DROPOUTS TO HS PROGRAM FACTOR (%)
VHOFIM			FEMALE YOUTH OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)

VHOFLF	144	A	FEMALE YOUTH OF HO FAMILIES IN THE LABOR FORCE (PEOPLE)
VHOFN	64.3	C	FEMALE YOUTH OF HO FAMILIES INITIAL (PEOPLE)
VHOFOG			FEMALE YOUTH OF HO FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
VHOFOM			FEMALE YOUTH OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
VHOFSC			FEMALE YOUTH OF HO FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
VHOIMOS	64.5	C	FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VHOIMRN	64.4	C	FEMALE YOUTH OF HO FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VHOIMU	64.6	C	FEMALE YOUTH OF HO FAMILIES IN-MIG DUE TO UNEM (%/YR)
VHOLFPN	144.1	C	FEMALE YOUTH OF HO FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
VHOLFPU	144.2	C	FEMALE YOUTH OF HO FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
VHOOMOS	64.8	C	FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VHOOMRN	64.7	C	FEMALE YOUTH OF HO FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VHOOMU	64.9	C	FEMALE YOUTH OF HO FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VOGF			FEMALE YOUTH OF OG FAMILIES (PEOPLE)
VOGFBA			FEMALE YOUTH OF OG FAMILIES BECOMING ADULTS (PEOPLE/YR)
VOGFCG	77	A	FEMALE YOUTH OF OG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
VOGFCP	206.9	C	FEMALE YOUTH OF OG FAMILIES COLLEGE PROGRAM FACTOR (%)
VOGFDOP	211.9	C	FEMALE YOUTH OF OG FAM DROPOUTS TO OE PROGRAM FACTOR (%)
VOGFEHP	209.9	C	FEMALE YOUTH OF OG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
VOGFEOP	208.9	C	FEMALE YOUTH OF OG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
VOGFHG			FEMALE YOUTH OF OG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
VOGFHO			FEMALE YOUTH OF OG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
VOGFHOP	212.9	C	FEMALE YOUTH OF OG FAM HS TO OE PROGRAM FACTOR (%)
VOGFHP	214.9	C	FEMALE YOUTH OF OG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
VOGFIM			FEMALE YOUTH OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
VOGFLF	140	A	FEMALE YOUTH OF OG FAMILIES IN THE LABOR FORCE (PEOPLE)
VOGFN	60.3	C	FEMALE YOUTH OF OG FAMILIES INITIAL (PEOPLE)
VOGFOG			FEMALE YOUTH OF OG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
VOGFOM			FEMALE YOUTH OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)

VOGFSC			FEMALE YOUTH OF OG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
VOGIMOS	60.5	C	FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VOGIMRN	60.4	C	FEMALE YOUTH OF OG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VOGIMU	60.6	C	FEMALE YOUTH OF OG FAMILIES IN-MIG DUE TO UNEM (%/YR)
VOGLFPN	140.1	C	FEMALE YOUTH OF OG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
VOGLFPU	140.2	C	FEMALE YOUTH OF OG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
VOGOMOS	60.8	C	FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VOGOMRN	60.7	C	FEMALE YOUTH OF OG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VOGOMU	60.9	C	FEMALE YOUTH OF OG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
VSCF			FEMALE YOUTH OF SC FAMILIES (PEOPLE)
VSCFBA			FEMALE YOUTH OF SC FAMILIES BECOMING ADULTS (PEOPLE/YR)
VSCFCG	71	A	FEMALE YOUTH OF SC FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
VSCFCP	206.8	C	FEMALE YOUTH OF SC FAMILIES COLLEGE PROGRAM FACTOR (%)
VSCFDOP	211.8	C	FEMALE YOUTH OF SC FAM DROPOUTS TO OE PROGRAM FACTOR (%)
VSCFEHP	209.8	C	FEMALE YOUTH OF SC FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
VSCFEOP	208.8	C	FEMALE YOUTH OF SC FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
VSCFHG			FEMALE YOUTH OF SC FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
VSCFHO			FEMALE YOUTH OF SC FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
VSCFHOP	212.8	C	FEMALE YOUTH OF SC FAM HS TO OE PROGRAM FACTOR (%)
VSCFHP	214.8	C	FEMALE YOUTH OF SC FAM DROPOUTS TO HS PROGRAM FACTOR (%)
VSCFIM			FEMALE YOUTH OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
VSCFLF	138	A	FEMALE YOUTH OF SC FAMILIES IN THE LABOR FORCE (PEOPLE)
VSCFN	58.3	C	FEMALE YOUTH OF SC FAMILIES INITIAL (PEOPLE)
VSCFOG			FEMALE YOUTH OF SC FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
VSCFOM			FEMALE YOUTH OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
VSCFSC			FEMALE YOUTH OF SC FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
VSCIMOS	58.5	C	FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
VSCIMRN	58.4	C	FEMALE YOUTH OF SC FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
VSCIMU	58.6	C	FEMALE YOUTH OF SC FAMILIES IN-MIG DUE TO UNEM (%/YR)

VSCLFPN	138.1	C	FEMALE YOUTH OF SC FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
VSCLFPU	138.2	C	FEMALE YOUTH OF SC FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
VSCOMOS	58.8	C	FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
VSCOMRN	58.7	C	FEMALE YOUTH OF SC FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
VSCOMU	58.9	C	FEMALE YOUTH OF SC FAMILIES OUT-MIG DUE TO UNEM (%/YR)
W	105	S	WOMEN -- AGE 20-64 (PEOPLE)
WAT	.1	C	WAGE ADJUSTMENT TIME (YEARS)
WEPMJ	158.2	C	WAGE-ELASTICITY OF GROWTH IN PRIMARY MFG JOBS (PERCENT/YR)
WEPSJ	160.2	C	WAGE-ELASTICITY OF GROWTH IN PRIMARY SVC JOBS (PERCENT/YR)
WESMJ	162.2	C	WAGE-ELASTICITY OF GROWTH IN SECONDARY MFG JOBS (PERCENT/YR)
WESSJ	164.2	C	WAGE-ELASTICITY OF GROWTH IN SECONDARY SVC JOBS (PERCENT/YR)
WETXJ			WAGE-ELASTICITY OF GROWTH IN TYPE-"X" JOBS (PERCENT/YR)
WLF	156	A	WOMEN IN THE LABOR FORCE (PEOPLE)
Y	53	S	MALE YOUTH -- AGE 15-19 (PEOPLE)
YCGF			MALE YOUTH OF CG FAMILIES (PEOPLE)
YCGFBA			MALE YOUTH OF CG FAMILIES BECOMING ADULTS (PEOPLE/YR)
YCGFCG	11	A	MALE YOUTH OF CG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
YCGFCP	206.2	C	MALE YOUTH OF CG FAMILIES COLLEGE PROGRAM FACTOR (%)
YCGFDOP	211.2	C	MALE YOUTH OF CG FAM DROPOUTS TO OE PROGRAM FACTOR (%)
YCGFEHP	209.2	C	MALE YOUTH OF CG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
YCGFEOP	208.2	C	MALE YOUTH OF CG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
YCGFHG			MALE YOUTH OF CG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
YCGFHO			MALE YOUTH OF CG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
YCGFHOP	212.2	C	MALE YOUTH OF CG FAM HS TO OE PROGRAM FACTOR (%)
YCGFHP	214.2	C	MALE YOUTH OF CG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
YCGFIM			MALE YOUTH OF CG FAMILIES IN-MIGRATION (PEOPLE/YR)
YCGFLF	135	A	MALE YOUTH OF CG FAMILIES IN THE LABOR FORCE (PEOPLE)
YCGFN	2.3	C	MALE YOUTH OF CG FAMILIES INITIAL (PEOPLE)
YCGFOG			MALE YOUTH OF CG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
YCGFOM			MALE YOUTH OF CG FAMILIES OUT-MIGRATION (PEOPLE/YR)
YCGFSC			MALE YOUTH OF CG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
YCGIMOS	2.5	C	MALE YOUTH OF CG FAMILIES IN-MIG DUE TO C STATUS (%/YR)

YCGIMRN	2.4	C	MALE YOUTH OF CG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YCGIMU	2.6	C	MALE YOUTH OF CG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YCGLFPN	135.1	C	MALE YOUTH OF CG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
YCGLFPU	135.2	C	MALE YOUTH OF CG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
YCGOM			
YCGOMOS	2.8	C	MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YCGOMRN	2.7	C	MALE YOUTH OF CG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YCGOMU	2.9	C	MALE YOUTH OF CG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
YHFGOM			
YHGF			MALE YOUTH OF HG FAMILIES (PEOPLE)
YHGFBA			MALE YOUTH OF HG FAMILIES BECOMING ADULTS (PEOPLE/YR)
YHGFCG	29	A	MALE YOUTH OF HG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
YHGFCP	206.5	C	MALE YOUTH OF HG FAMILIES COLLEGE PROGRAM FACTOR (%)
YHGFDOP	211.5	C	MALE YOUTH OF HG FAM DROPOUTS TO OE PROGRAM FACTOR (%)
YHGFEHP	209.5	C	MALE YOUTH OF HG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
YHGFEOP	208.5	C	MALE YOUTH OF HG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
YHGFHG			MALE YOUTH OF HG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
YHGFHO			MALE YOUTH OF HG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
YHGFHOP	212.5	C	MALE YOUTH OF HG FAM HS TO OE PROGRAM FACTOR (%)
YHGFHP	214.5	C	MALE YOUTH OF HG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
YHGFIM			MALE YOUTH OF HG FAMILIES IN-MIGRATION (PEOPLE/YR)
YHGFLF	141	A	MALE YOUTH OF HG FAMILIES IN THE LABOR FORCE (PEOPLE)
YHGFN	8.3	C	MALE YOUTH OF HG FAMILIES INITIAL (PEOPLE)
YHGFOG			MALE YOUTH OF HG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
YHGFOM			MALE YOUTH OF HG FAMILIES OUT-MIGRATION (PEOPLE/YR)
YHGFSC			MALE YOUTH OF HG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
YHGIMOS	8.5	C	MALE YOUTH OF HG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YHGIMRN	8.4	C	MALE YOUTH OF HG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YHGIMU	8.6	C	MALE YOUTH OF HG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YHGLFPN	141.1	C	MALE YOUTH OF HG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
YHGLFPU	141.2	C	MALE YOUTH OF HG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)

YHGOMOS	8.8	C	MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YHGOMRN	8.7	C	MALE YOUTH OF HG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YHGOMU	8.9	C	MALE YOUTH OF HG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
YHOF			MALE YOUTH OF HO FAMILIES (PEOPLE)
YHOFBA			MALE YOUTH OF HO FAMILIES BECOMING ADULTS (PEOPLE/YR)
YHOFCG	35	A	MALE YOUTH OF HO FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
YHOFCP	206.6	C	MALE YOUTH OF HO FAMILIES COLLEGE PROGRAM FACTOR (%)
YHOFDOP	211.6	C	MALE YOUTH OF HO FAM DROPOUTS TO OE PROGRAM FACTOR (%)
YHOFEHP	209.6	C	MALE YOUTH OF HO FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
YHOFEOP	208.6	C	MALE YOUTH OF HO FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
YHOFHG			MALE YOUTH OF HO FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
YHOFHO			MALE YOUTH OF HO FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
YHOFHOP	212.6	C	MALE YOUTH OF HO FAM HS TO OE PROGRAM FACTOR (%)
YHOFHP	214.6	C	MALE YOUTH OF HO FAM DROPOUTS TO HS PROGRAM FACTOR (%)
YHOFIM			MALE YOUTH OF HO FAMILIES IN-MIGRATION (PEOPLE/YR)
YHOFLF	143	A	MALE YOUTH OF HO FAMILIES IN THE LABOR FORCE (PEOPLE)
YHOFN	10.3	C	MALE YOUTH OF HO FAMILIES INITIAL (PEOPLE)
YHOFOG			MALE YOUTH OF HO FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
YHOFOM			MALE YOUTH OF HO FAMILIES OUT-MIGRATION (PEOPLE/YR)
YHOFSC			MALE YOUTH OF HO FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
YHOIMOS	10.5	C	MALE YOUTH OF HO FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YHOIMRN	10.4	C	MALE YOUTH OF HO FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YHOIMU	10.6	C	MALE YOUTH OF HO FAMILIES IN-MIG DUE TO UNEM (%/YR)
YHOLFPN	143.1	C	MALE YOUTH OF HO FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
YHOLFPU	143.2	C	MALE YOUTH OF HO FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
YHOOMOS	10.8	C	MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YHOOMRN	10.7	C	MALE YOUTH OF HO FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YHOOMU	10.9	C	MALE YOUTH OF HO FAMILIES OUT-MIG DUE TO UNEM (%/YR)
YOGF			MALE YOUTH OF OG FAMILIES (PEOPLE)
YOGFBA			MALE YOUTH OF OG FAMILIES BECOMING ADULTS (PEOPLE/YR)

YOGFCG	23	A	MALE YOUTH OF OG FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
YOGFCP	206.4	C	MALE YOUTH OF OG FAMILIES COLLEGE PROGRAM FACTOR (%)
YOGFDOP	211.4	C	MALE YOUTH OF OG FAM DROPOUTS TO OE PROGRAM FACTOR (%)
YOGFEHP	209.4	C	MALE YOUTH OF OG FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
YOGFEOP	208.4	C	MALE YOUTH OF OG FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)
YOGFHG			MALE YOUTH OF OG FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
YOGFHO			MALE YOUTH OF OG FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
YOGFHOP	212.4	C	MALE YOUTH OF OG FAM HS TO OE PROGRAM FACTOR (%)
YOGFHP	214.4	C	MALE YOUTH OF OG FAM DROPOUTS TO HS PROGRAM FACTOR (%)
YOGFIM			MALE YOUTH OF OG FAMILIES IN-MIGRATION (PEOPLE/YR)
YOGFLF	139	A	MALE YOUTH OF OG FAMILIES IN THE LABOR FORCE (PEOPLE)
YOGFN	6.3	C	MALE YOUTH OF OG FAMILIES INITIAL (PEOPLE)
YOGFOG			MALE YOUTH OF OG FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
YOGFOM			MALE YOUTH OF OG FAMILIES OUT-MIGRATION (PEOPLE/YR)
YOGFSC			MALE YOUTH OF OG FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
YOGIMOS	6.5	C	MALE YOUTH OF OG FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YOGIMRN	6.4	C	MALE YOUTH OF OG FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YOGIMU	6.6	C	MALE YOUTH OF OG FAMILIES IN-MIG DUE TO UNEM (%/YR)
YOGLFPN	139.1	C	MALE YOUTH OF OG FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
YOGLFPU	139.2	C	MALE YOUTH OF OG FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
YOGOMOS	6.8	C	MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YOGOMRN	6.7	C	MALE YOUTH OF OG FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YOGOMU	6.9	C	MALE YOUTH OF OG FAMILIES OUT-MIG DUE TO UNEM (%/YR)
YSCF			MALE YOUTH OF SC FAMILIES (PEOPLE)
YSCFBA			MALE YOUTH OF SC FAMILIES BECOMING ADULTS (PEOPLE/YR)
YSCFCG	17	A	MALE YOUTH OF SC FAMILIES BECOMING CG ADULTS (PEOPLE/YR)
YSCFCP	206.3	C	MALE YOUTH OF SC FAMILIES COLLEGE PROGRAM FACTOR (%)
YSCFDOP	211.3	C	MALE YOUTH OF SC FAM DROPOUTS TO OE PROGRAM FACTOR (%)
YSCFEHP	209.3	C	MALE YOUTH OF SC FAM ENROLL OF HS GRADS PROGRAM FACTOR (%)
YSCFEOP	208.3	C	MALE YOUTH OF SC FAM ENROLL OF OE GRADS PROGRAM FACTOR (%)

YSCFHC			MALE YOUTH OF SC FAMILIES BECOMING HG ADULTS (PEOPLE/YR)
YSCFHO			MALE YOUTH OF SC FAMILIES BECOMING HO ADULTS (PEOPLE/YR)
YSCFHOP	212.3	C	MALE YOUTH OF SC FAM HS TO OE PROGRAM FACTOR (%)
YSCFHP	214.3	C	MALE YOUTH OF SC FAM DROPOUTS TO HS PROGRAM FACTOR (%)
YSCFIM			MALE YOUTH OF SC FAMILIES IN-MIGRATION (PEOPLE/YR)
YSCFLF	137	A	MALE YOUTH OF SC FAMILIES IN THE LABOR FORCE (PEOPLE)
YSCFN	4.3	C	MALE YOUTH OF SC FAMILIES INITIAL (PEOPLE)
YSCFOG			MALE YOUTH OF SC FAMILIES BECOMING OG ADULTS (PEOPLE/YR)
YSCFOM			MALE YOUTH OF SC FAMILIES OUT-MIGRATION (PEOPLE/YR)
YSCFSC			MALE YOUTH OF SC FAMILIES BECOMING SC ADULTS (PEOPLE/YR)
YSCIMOS	4.5	C	MALE YOUTH OF SC FAMILIES IN-MIG DUE TO OCC STATUS (%/YR)
YSCIMRN	4.4	C	MALE YOUTH OF SC FAMILIES IN-MIG RATE NORMAL (PERCENT/YR)
YSCIMU	4.6	C	MALE YOUTH OF SC FAMILIES IN-MIG DUE TO UNEM (%/YR)
YSCLFPN	137.1	C	MALE YOUTH OF SC FAM LABOR FORCE PARTIC RATE NORMAL (PERCENT)
YSCLFPU	137.2	C	MALE YOUTH OF SC FAM LABOR FORCE PARTIC DUE TO UNEM (PERCENT)
YSCOMOS	4.8	C	MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO OCC STATUS (%/YR)
YSCOMRN	4.7	C	MALE YOUTH OF SC FAMILIES OUT-MIG RATE NORMAL (PERCENT/YR)
YSCOMU	4.9	C	MALE YOUTH OF SC FAMILIES OUT-MIG DUE TO UNEM (%/YR)
$CEXFRT	4	A	CHLDRN OF ED-"X" FAMILIES BECOMING TEENS (PEOPLE/YR)
$EXAAD	8	A	ED-"X" AGING ADULT DEATHS
$EXABAA	6	A	ED-"X" ADULTS BECOMING AGING ADULTS (PEOPLE/YR)
$EXAIMR	3	A	ED-"X" ADULTS IN-MIGRATION RATE (PERCENT/YR)
$EXAOMR	5	A	ED-"X" ADULTS OUT-MIGRATION RATE (PERCENT/YR)
$EXPLPR	2	A	ED-"X" PEOPLE LABOR FORCE PARTIC RATE (PERCENT)
$GTXJ	2	R	GROWTH IN TYPE-"X" JOBS (JOBS/YR)
$GTXJR	3	A	GROWTH IN TYPE-"X" JOBS RATE (PERCENT/YR)
$TEXFCG	6	A	% TEENS OF ED-"X" FAMILIES BECOMING CG ADULTS (PERCENT)
$TEXFEC	11	A	% TEENS OF ED-"X" FAMILIES ENROLLING IN COL WHO GRADUATE (%)
$TEXFH	15	A	% TEENS OF ED-"X" FAMILIES COMPLETING HS (PERCENT)
$TEXFHE	13	A	% TEENS OF ED-"X" FAMILIES COMPLETING HS WHO ENROLL IN COL (%)
$TEXFHG	9	A	% TEENS OF ED-"X" FAMILIES BECOMING HG ADULTS (PERCENT)

$TEXFHO	1?	A	% TEENS OF ED-"X" FAMILIES BECOMING HO ADULTS (PERCENT)
$TEXFO	14	A	% TEENS OF ED-"X" FAMILIES COMPLETING OE (PERCENT)
$TEXFOE	12	A	% TEENS OF ED-"X" FAMILIES COMPLETING OE WHO ENROLL IN COL (%)
$TEXFOG	8	A	% TEENS OF ED-"X" FAMILIES BECOMING OG ADULTS (PERCENT)
$TEXFSC	7	A	% TEENS OF ED-"X" FAMILIES BECOMING SC ADULTS (PERCENT)
$TEXIMR	7	A	TEENS OF ED-"X" FAMILIES IN-MIGRATION RATE (PERCENT/YR)
$TEXOMR	9	A	TEENS OF ED-"X" FAMILIES OUT-MIGRATION RATE (PERCENT/YR)
$TTXJW	1	A	TARGET TYPE-"X" JOB WAGE (DOLLARS)